TX420 & 425 240000301 & up Control Panel and Tower Assembly Replacement

Raising the Loader Arms

1. Raise the loader arm assembly and support the quick attach assembly with jack stands (Fig. 1999).

Fig 1999 DSC-3569

Battery Removal

1. Remove the rear access cover (Fig. 2000).

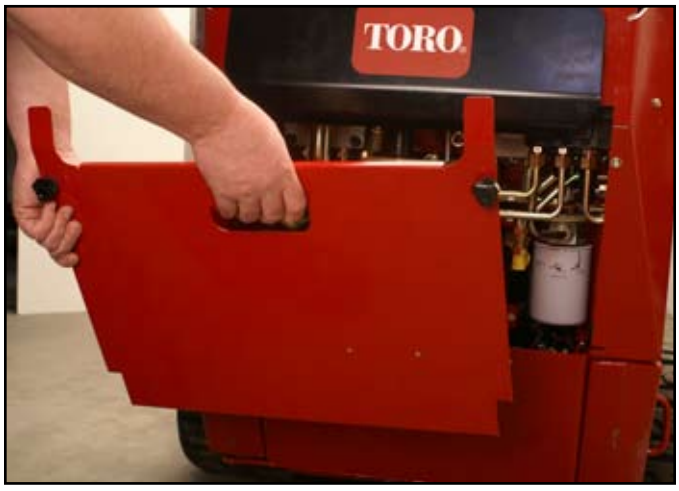

Fig 2000 PICT-1026

2. Using a 1/2” socket and wrench, remove the battery clamp (Fig. 2001).

Fig 2001 PICT-1029

3. Using a 1/2” socket, disconnect the negative then the positive battery cable (Fig. 2002).

Fig 2002 PICT-1033

4. Remove the battery from the battery mounting tray (Fig. 2003).

Fig 2003 PICT-1034a

Engine Hood Assembly Removal

1. Raise the hood to the full upright position.

2. Mark the fan connector and mating harness connector with a “1”. Unplug the fan connector from the wire harness (Fig. 2004).

Fig 2004 PICT-0963

3. Using a 7/16” socket and Philips screwdriver, remove the nut and screw holding the harness wire clamp to the hood hinge (Fig. 2005).

Fig 2005 PICT-0965

4. Using a 7/16” socket and Philips screw-driver, remove the 4 nuts and screws that attach the hood hinge to the tower assembly (Fig. 2006).

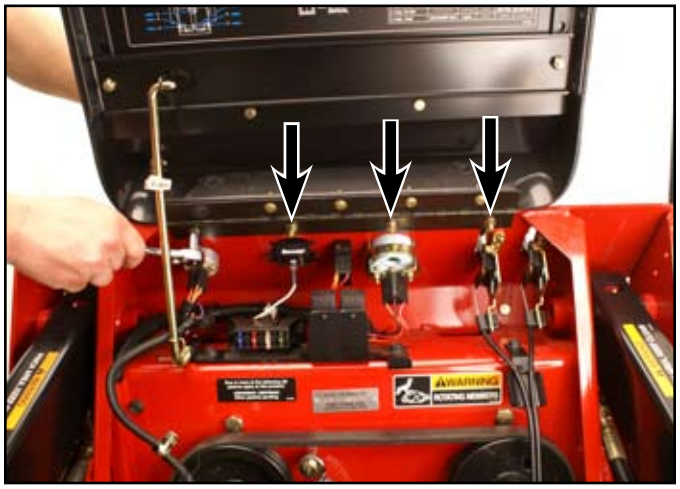

Fig 2006 PICT-0966

5. Remove the support rod from the hood bracket and remove the hood from the tower assembly (Fig. 2007).

Fig 2007 PICT-0967

Belt Removal

1. Using a spring removal tool (Toro P/N 92-5771), connect the tool to the spring end located on the stud bolted to the tower assembly. Pull up on the spring end to remove the spring from the bolt stud (Fig. 2008).

Fig 2008 PICT-0969

2. Remove spring from the idler arm (Fig. 2009).

Fig 2009 PICT-0974

3. Remove the belt from the pulleys (Fig. 2010).

Fig 2010 PICT-0975

4. Use the idler spring, or a strap, to hold idler assembly upward toward hydro pump pulleys (Fig. 2011).

Fig 2011 PICT-0977

Gauge/Electrical Removal

1. Mark the following components and adjoining harness connectors 2, 3, 4, 5 (Fig. 2012).

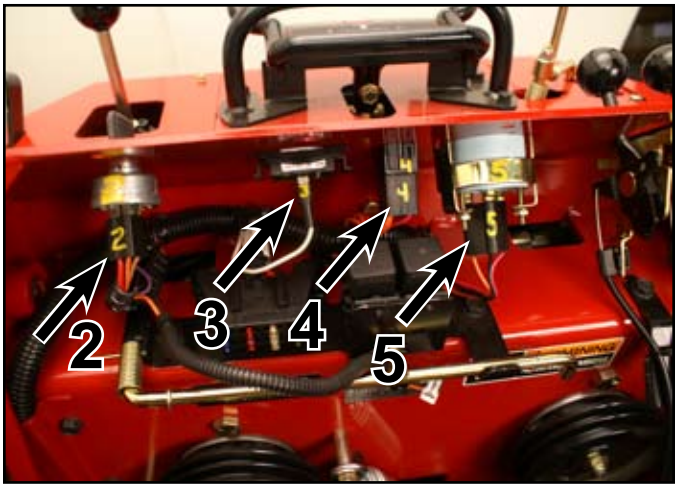

Fig 2012 PICT-0981

2. Key switch assembly (switch, harness connecter and violet wire)
3. Hour meter
4. Hydraulic oil temperature light
5. Fuel gauge

2. Disconnect the harness connector from the key switch assembly. Disconnect the violet wire from the key switch assembly (Fig. 2013).

Fig 2013 PICT-0984

3. Disconnect the white wire from the hourmeter (Fig. 2014).

Fig 2014 PICT-0985

4. Disconnect the wire harness connector from the hydraulic oil temperature light by squeezing the sides of the connector while pulling down (Fig. 2015).

Fig 2015 PICT-0986

5. Disconnect the wire harness connector from the fuel gauge (Fig. 2016).

Fig 2016 PICT-0987

6. Remove the knobs from the throttle and choke cable handles (Fig. 2017).

Fig 2017 PICT-0988

7. Using a 3/8” socket and 5/16” wrench, remove the bolts and nuts on the throttle and choke handle assemblies (Fig. 2018).

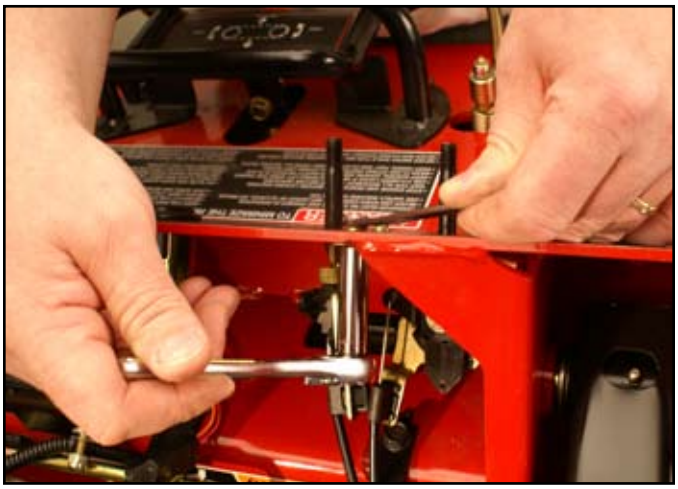

Fig 2018 PICT-0992

8. Pull the throttle and choke handle assemblies inward toward the engine. Mark the choke handle assembly with the letter “C” (Fig. 2019).

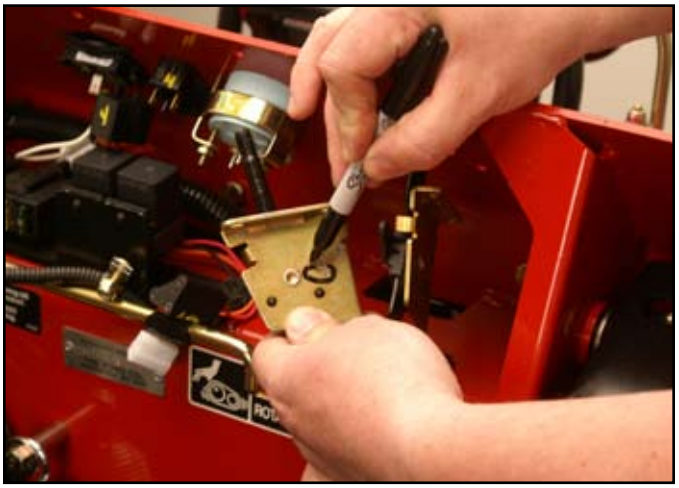

Fig 2019 PICT-0993

9. Using a 1/2” socket, remove the screw holding the cable guide to the tower (Fig. 2020).

Fig 2020 PICT-0994

10. Using a 1/2” socket, remove the 2 screws holding the fuse/relay bracket assembly to the tower (Fig. 2021).

Fig 2021 PICT-0995

11. Using a 1/2” socket, remove the 2 screws securing the wiring shield to the tower and remove the wiring shield (Fig. 2022).

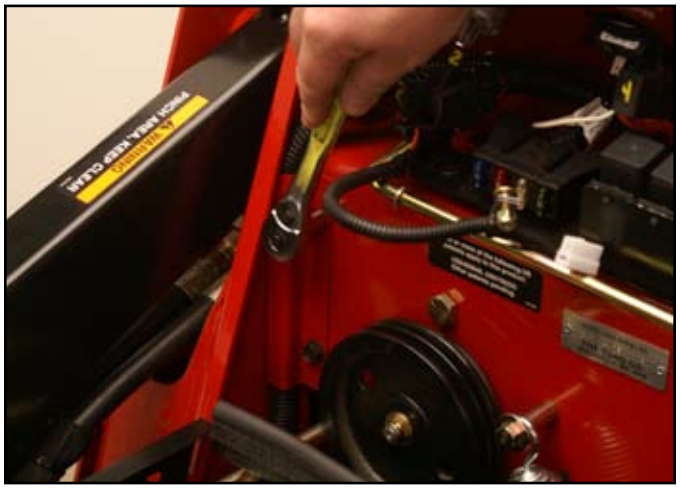

Fig 2022 PICT-0996

Control Panel Removal

1. Using a 3/8” socket, remove the 4 screws holding the left hand panel to the control panel assembly (Fig. 2023).

Fig 2023 PICT-0999

2. Remove the left hand panel from the control panel assembly (Fig. 2024).

Fig 2024 PICT-1000

3. Using a 3/8” socket, remove the 4 screws holding the right hand panel to the control panel assembly (Fig. 2025).

Fig 2025 PICT-1001

4. Remove the right hand panel from the control panel assembly (Fig. 2026).

Fig 2026 PICT-1004a

5. Using a 9/16” socket and wrench, remove the bolt and nut holding the drive handle to the drive rod assembly (Fig. 2027).

Fig 2027 PICT-1005

6. Using a 1/2” socket, remove the 4 bolts holding the reference bar assembly to the control panel assembly (Fig. 2028).

Fig 2028 PICT-1007

7. Remove the drive handle and reference bar from the control panel assembly (Fig. 2029).

Fig 2029 PICT-1009

8. Remove the center panel from the control panel assembly (Fig. 2030).

Fig 2030 PICT-1010

9. Mark the following components and the adjoining harness connectors 6, 7, 8, 9 (Fig. 2031 and Fig. 2032).

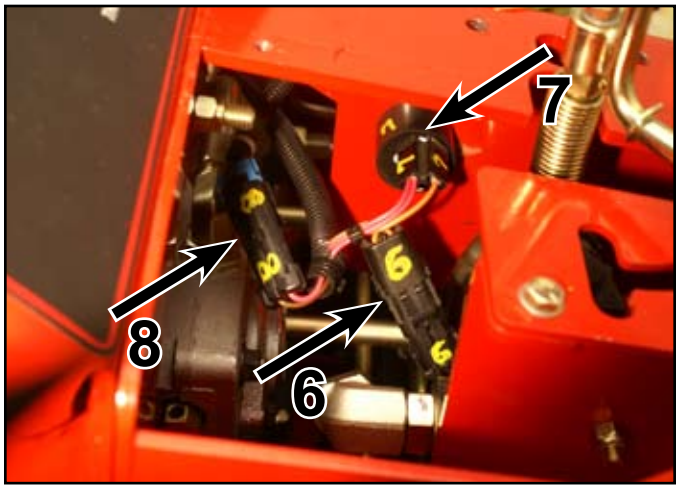

Fig 2031 PICT-1015

6. Safety switch on the auxiliary valve
7. Audio alarm for the hydraulic oil temperature
8. Neutral switch

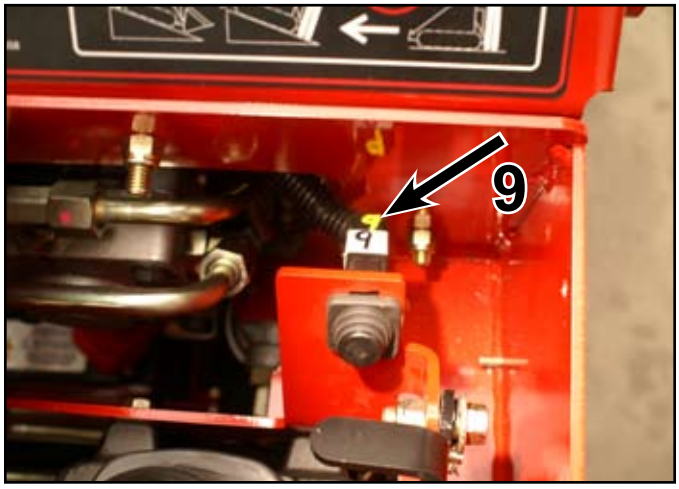

Fig 2032 PICT-1017

9. Brake switch

10. Disconnect the safety switch (marked with a 6) by lifting up on the tab and pulling the connectors apart (Fig. 2033).

Fig 2033 PICT-1018

11. Disconnect the audio alarm (marked with a 7) (Fig. 2034).

Fig 2034 PICT-1019

12. Disconnect the neutral switch (marked with an 8) by lifting up on the tab and pulling the connectors apart (Fig. 2035).

Fig 2035 PICT-1021

13. Disconnect the brake switch (marked with a 9) by lifting up on the tab and pulling the connectors apart (Fig. 2036).

Fig 2036 PICT-1022

14. Pull the harness through the tower toward the engine and lay the entire harness assembly across the top of the engine (Fig. 2037).

Fig 2037 PICT-1025

15. Using a 3/8” socket, remove the right hand and left hand rear cover support assemblies (Fig. 2038).

Fig 2038 PICT-1037

16. Using a 3/4” socket, remove both rear counterweights (Fig. 2039).

Fig 2039 PICT-1038

17. Using 3/4” and 9/16” sockets, remove the rear chassis cover by removing the 8 sets of fasteners (Fig. 2040).

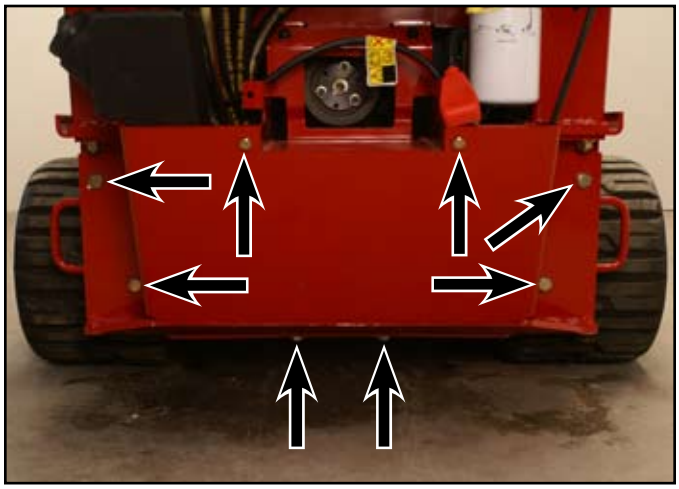

Fig 2040 PICT-1040

18. Disconnect the two wires on the fuel sending unit located on top of the fuel tank (Fig. 2041).

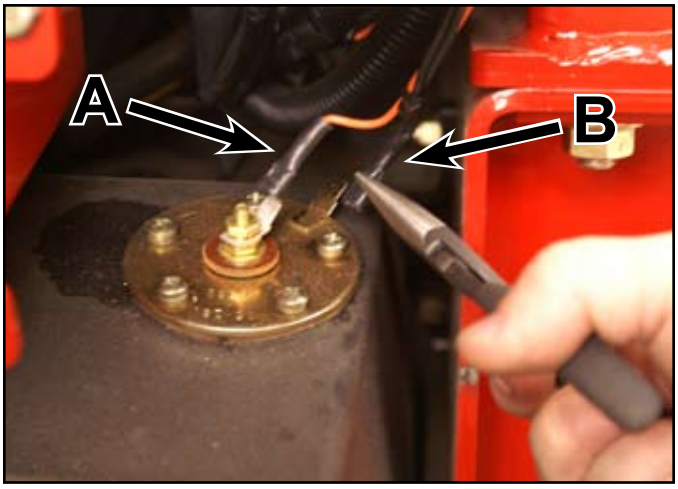

Fig 2041 PICT-0555

A. Center terminal orange wire

B. Outside terminal black wire

19. Remove the fuel line hose clamp and fuel line from the fuel tank. Slide the fuel tank out of the frame (Fig. 2042).

Fig 2042 PICT-1041

20. Mark the tilt cylinder and left side lift cylinder hydraulic lines A, B, C, and D starting from the bottom fitting, moving upward as shown (Fig. 2043).

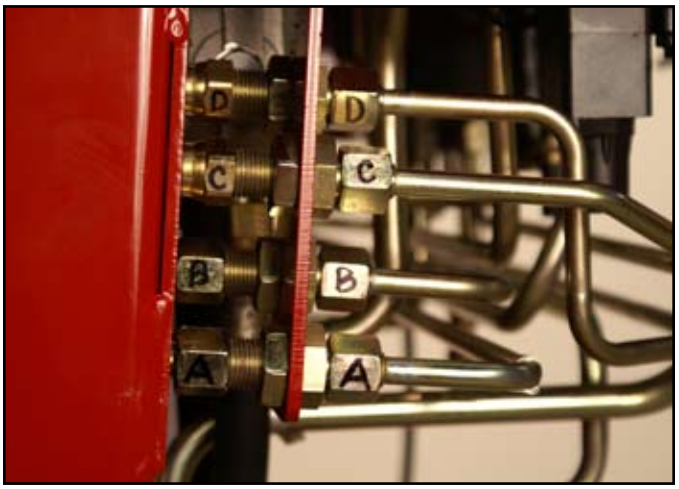

Fig 2043 PICT-0561

21. Place an oil pan under the left side hydraulic bulkhead.

22. Using a 13/16” wrench, remove the tilt cylinder and left side lift cylinder hydraulic lines and loosen the bulkhead fitting nuts starting from the bottom fitting, moving upward as shown (Fig. 2044, Fig. 2045, Fig. 2046 and Fig. 2047).

Note: Cap each hydraulic line to ensure debris does not enter the system.

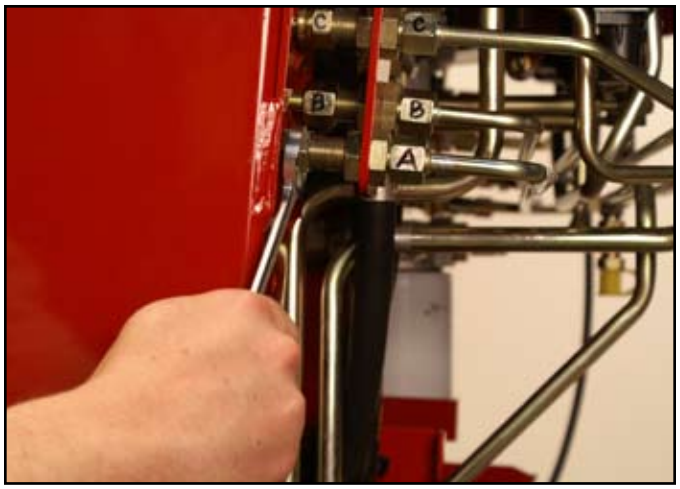

Fig 2044 PICT-0562

A. Outside lift cylinder

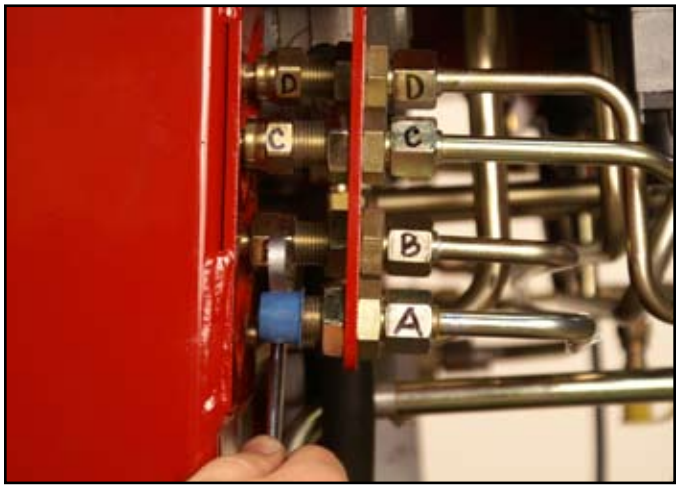

Fig 2045 PICT-0564

B. Inside lift cylinder

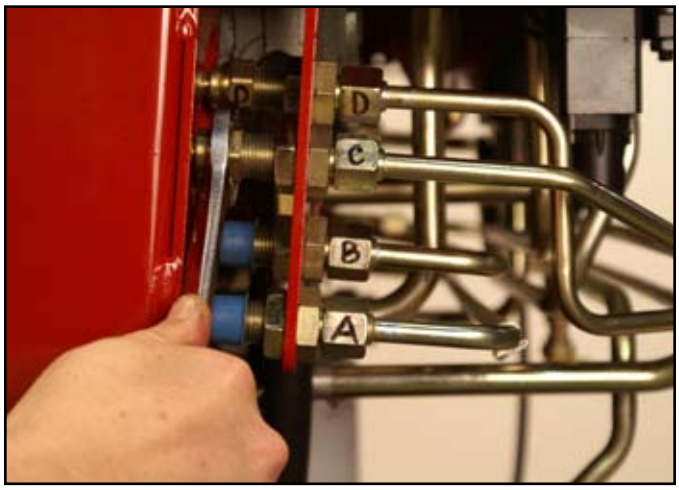

Fig 2046 PICT-0565

C. Outside tilt cylinder

Fig 2047 PICT-0567

D. Inside tilt cylinder

23. Mark the right side lift cylinder and auxiliary hydraulic lines E, F, G, and H starting from the bottom fitting, moving upward as shown (Fig. 2048).

Fig 2048 PICT-0569

24. Place an oil pan under the right side hydraulic bulkhead.

25. Using a 13/16” and a 7/8” wrench, remove the right side lift cylinder and auxiliary hydraulic lines and loosen the bulkhead fitting nuts starting from the bottom fitting, moving upward as shown (Fig. 2049, Fig. 2050, Fig. 2051 and Fig. 2052).

Note: Cap each hydraulic line to ensure debris does not enter the system.

Fig 2049 PICT-0571

E. Outside lift cylinder line

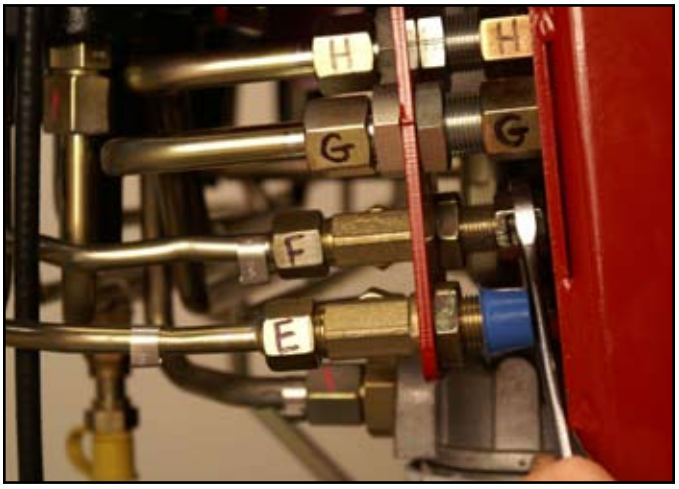

Fig 2050 PICT-0572

F. Inside lift cylinder line

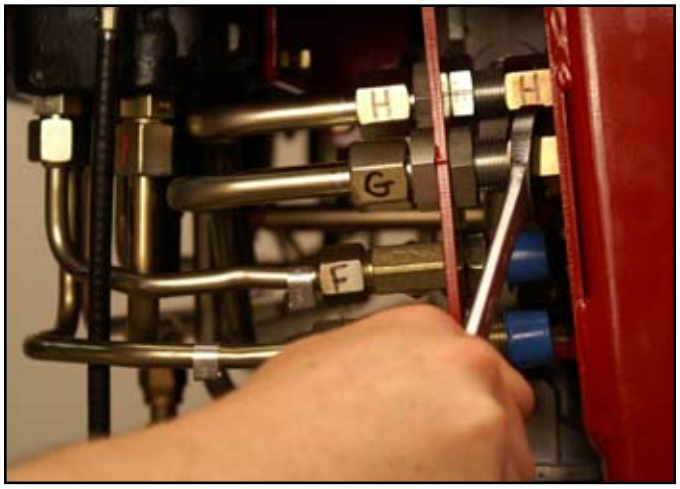

Fig 2051 PICT-0573

G. Outside auxiliary line

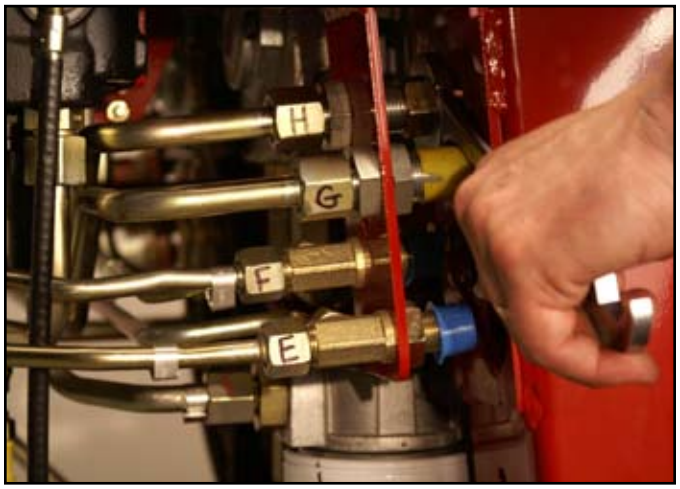

Fig 2052 PICT-0574

H. Inside auxiliary line

26. Mark the hydraulic oil filter inlet line and the filter head fitting with the letter “O” as shown (Fig. 2053).

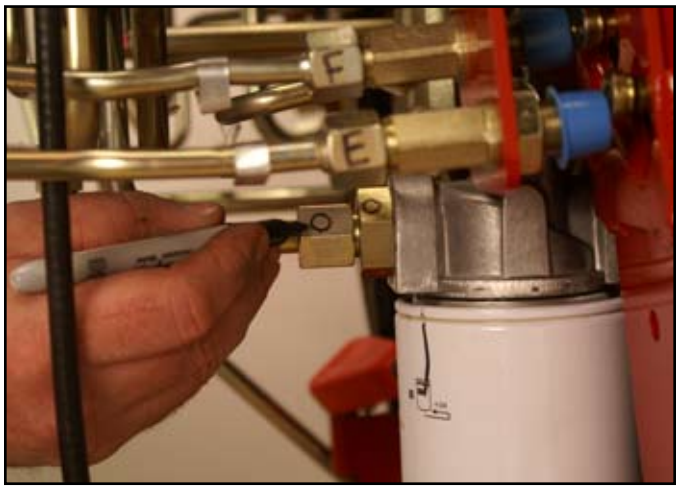

Fig 2053 PICT-1045

27. Using a 15/16” wrench, disconnect the hydraulic oil filter inlet line from the filter head fitting (Fig. 2054).

Note: Cap the hydraulic line and fitting so that debris does not enter the system.

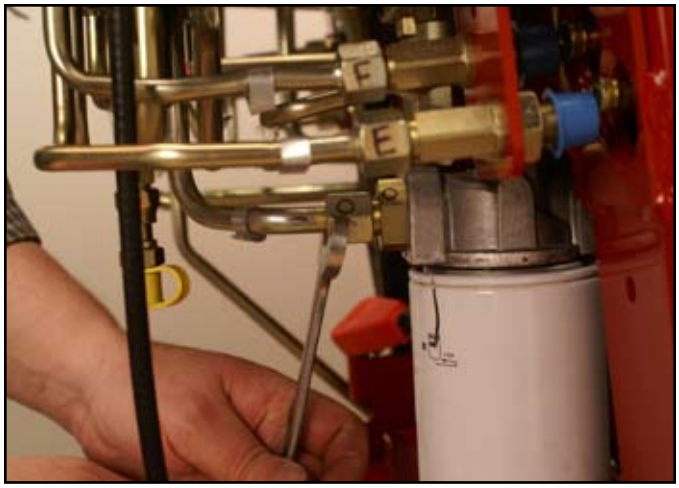

Fig 2054 PICT-1047

28. Label the hydraulic hard lines and engine bulkhead plate I, J, and K as shown (Fig. 2055).

Fig 2055 PICT-0611

I. Gear Pump to the Two Spool Valve
J. Gear pump to the Auxiliary Valve
K. Hydraulic Oil Cooler

29. Using a 15/16” wrench, disconnect the hydraulic line marked “I” (Gear Pump to the Two Spool Valve) (Fig. 2056).

Fig 2056 PICT-1048a

30. Using a 1-1/8” wrench, disconnect the hydraulic line marked “J” (Gear Pump to the Auxiliary Valve) (Fig. 2057).

Fig 2057 PICT-1049a

31. Using a 1-1/8” wrench, disconnect the hydraulic line marked “K” (Hydraulic Oil Cooler) (Fig. 2058).

Fig 2058 PICT-1050a

32. Mark the hydraulic line connected to the left port on the hydro pump with the letter “P” as shown (Fig. 2059).

Fig 2059 PICT-1053

33. Using a 1-1/8” wrench, disconnect the hydraulic line from the left port of the hydro pump (Fig. 2060).

Note: Cap the line and port so that debris does not enter the system.

Fig 2060 PICT-1054

34. Tuck the hydraulic line marked “P” to the right of the hydraulic hard line marked “J” (Fig. 2061).

Fig 2061 PICT-1056a

35. Using a 1-1/8” wrench, disconnect the hydraulic hard line (J) from the auxiliary spool valve and remove it from the machine (Fig. 2062).

Note: Cap the hydraulic line and spool fitting so that debris does not enter the system.

Fig 2062 PICT-1060

36. Using a 1/2” wrench and a 1/4” (.63cm) hex wrench, remove the two bolts, spacers and nuts that retain the drive linkage (Fig. 2063).

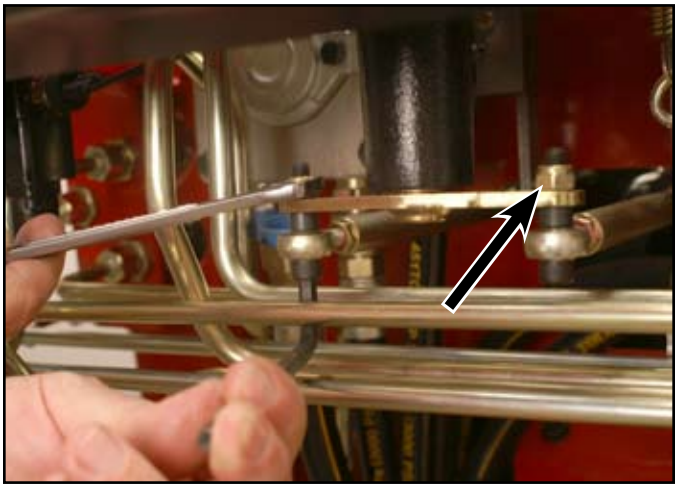

Fig 2063 PICT-1058a

37. Remove the cotter pin from the clevis pin attaching the brake cable to the brake handle (Fig. 2064).

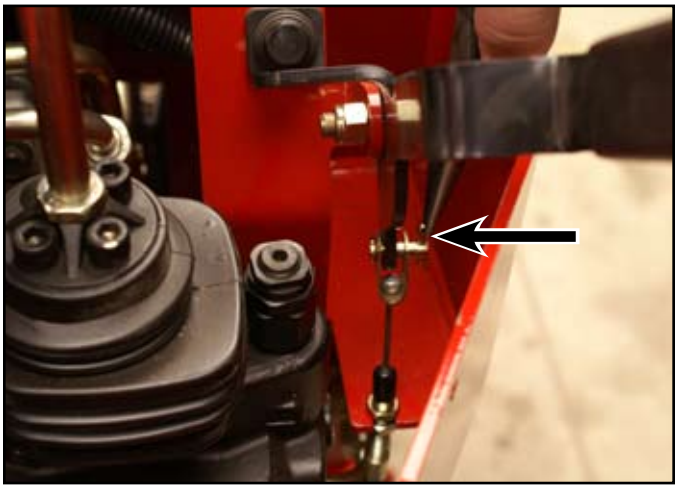

Fig 2064 PICT-0595

38. Using a 1/2” wrench, loosen the nut on the threaded end of the brake cable and slide the cable out of the control panel frame (Fig. 2065).

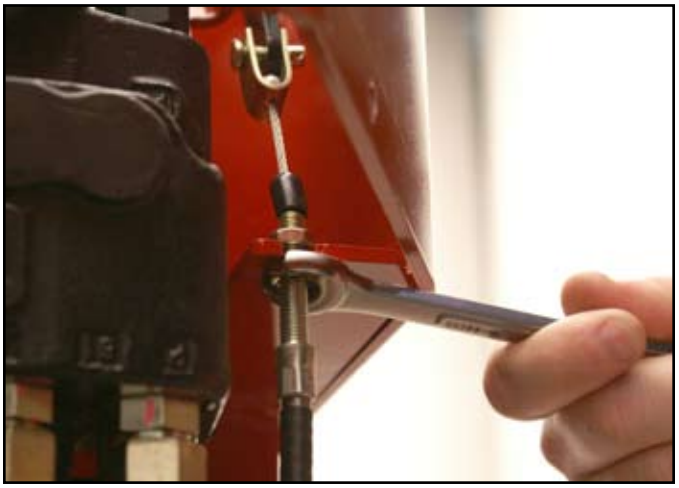

Fig 2065 PICT-0598a

39. Remove the clevis pin that retains the brake cable to the brake handle (Fig. 2066).

Fig 2066 PICT-0599

40. Pull the brake cable down between the hydraulic lines (Fig. 2067).

Fig 2067 PICT-1059

41. Release tension on the 2 torsion springs securing the reverse plate assembly (Fig. 2068).

Fig 2068 PICT-1064a

42. Using a 9/16” socket and wrench, remove the shoulder bolts, springs and nuts securing the reverse plate assembly to the control panel assembly and remove it from the machine (Fig. 2069).

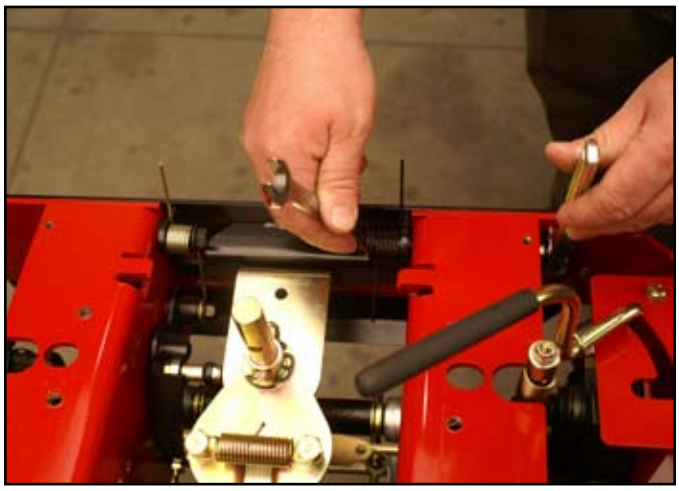

Fig 2069 PICT-1065

43. Set the replacement control panel onto a stable surface and secure in place (Fig. 2070).

Fig 2070 PICT-1066

44. Mark the left hand bulkhead on the replacement control panel with A, B, C and D as shown: (Fig. 2071).

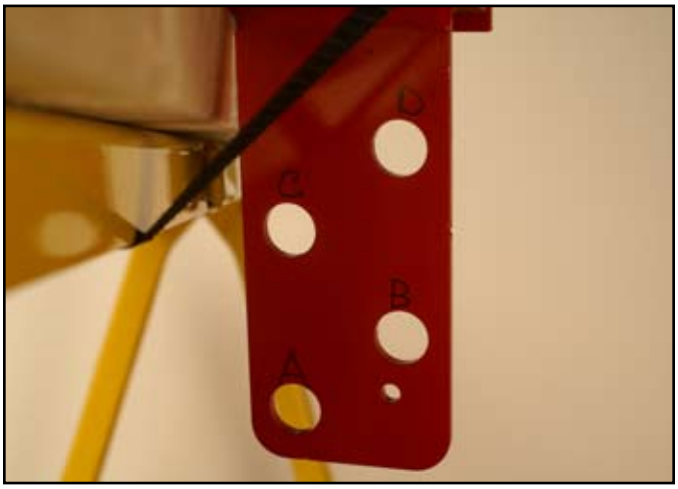

Fig 2071 PICT-1068

45. Mark the right hand bulkhead on the replacement control panel with E, F, G, and H as shown: (Fig. 2072).

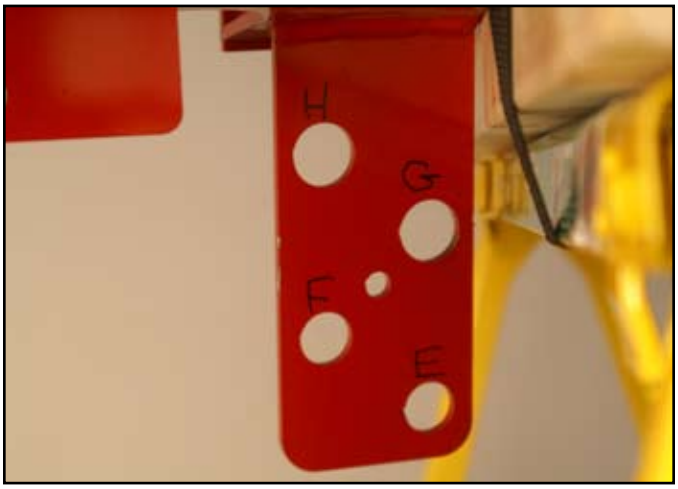

Fig 2072 PICT-1071

46. Remove the protective caps from all 8 hydraulic bulk head fittings. Using a 1” and a 1-1/8” wrench, remove all 8 bulkhead nuts (Fig. 2073).

Fig 2073 PICT-1073

47. Using a 1/2” socket, remove the 3 bolts securing the loader valve to the control panel assembly (Fig. 2074).

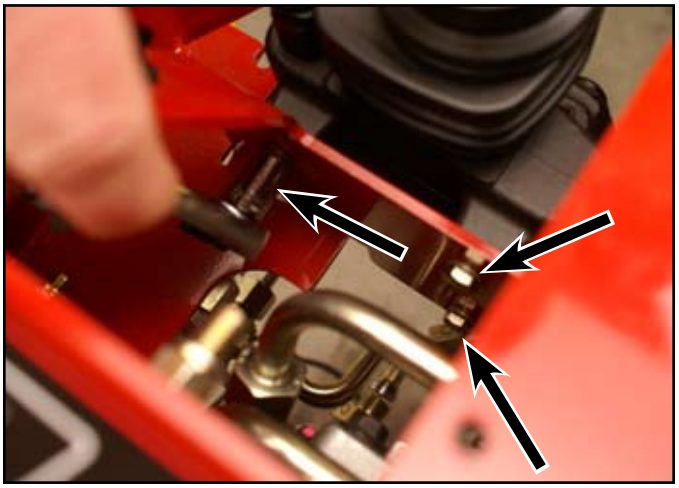

Fig 2074 PICT-1075

48. Remove the loader valve and attached hydraulic lines from the control panel assembly (Fig. 2075).

Note: Recap all the hydraulic lines to prevent debris from entering the system.

Fig 2075 PICT-1076

49. Using a 7/16” socket and wrench, remove the 2 bolts, washers and nuts securing the auxiliary valve stop plate to the control panel. Remove the stop plate (Fig. 2076).

Fig 2076 PICT-1077

50. Using a 1/2” socket and wrench, remove the 2 mounting bolts and nuts securing the auxiliary valve to the control panel (Fig. 2077).

Fig 2077 PICT-1081

51. Remove the auxiliary valve and attached hydraulic lines from the control panel (Fig. 2078).

Fig 2078 PICT-1082

52. Install the auxiliary valve and attached hydraulic lines into the replacement control panel assembly so that the hydraulic lines marked G and H are installed in the bulkhead openings marked G and H. Install and tighten the 2 bolts and nuts securing the auxiliary valve to the control panel. Install and tighten the 2 bulkhead nuts onto the hydraulic lines marked with G and H (Fig. 2079).

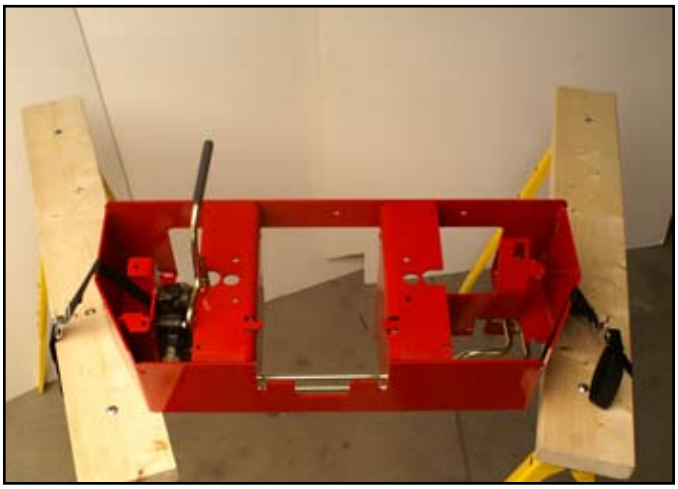

Fig 2079 PICT-1086

53. Using a 7/16” socket, remove the lower eyebolt and nut securing the traction control extension spring to the control panel assembly (Fig. 2080).

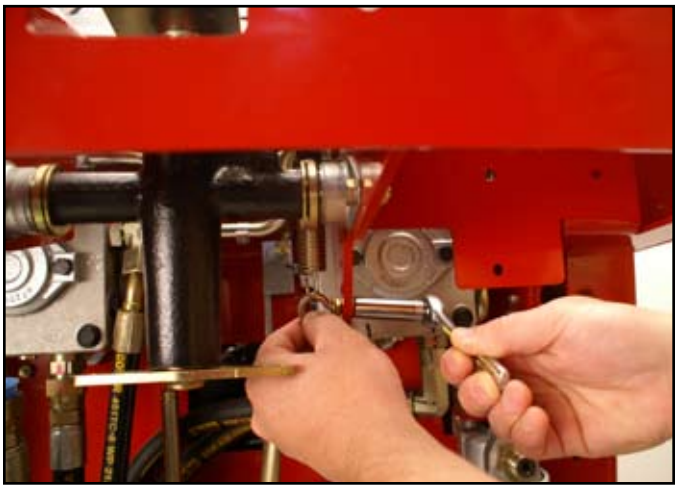

Fig 2080 PICT-1087

54. Using a 9/16” socket and wrench, remove the shoulder bolt, bushings and nut securing the neutral centering lever to the control panel assembly (Fig. 2081).

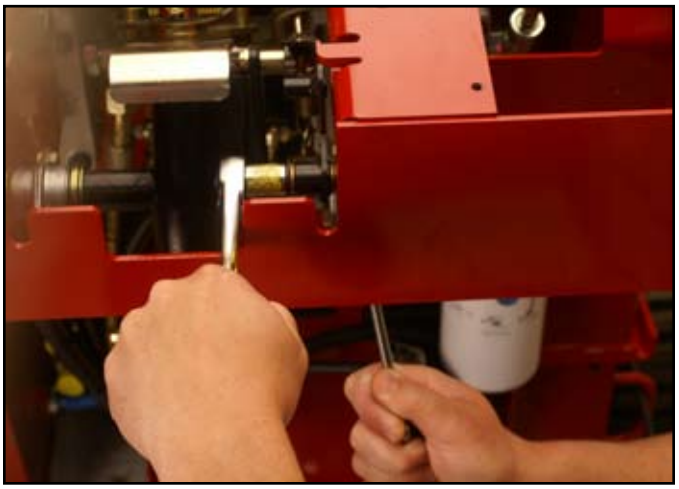

Fig 2081 PICT-1088

55. Remove the neutral centering lever assembly from the control panel (Fig. 2082).

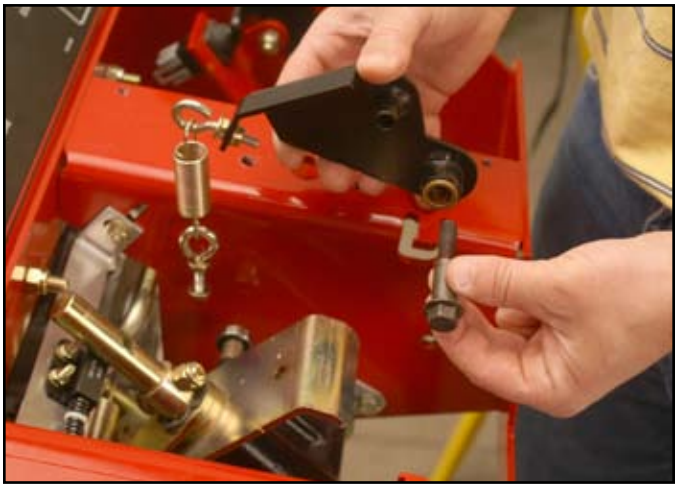

Fig 2082 PICT-1089a

56. Using a 1/2” socket and wrench, remove the 4 bolts and nuts securing the 2 traction control bushings to the control panel (Fig. 2083).

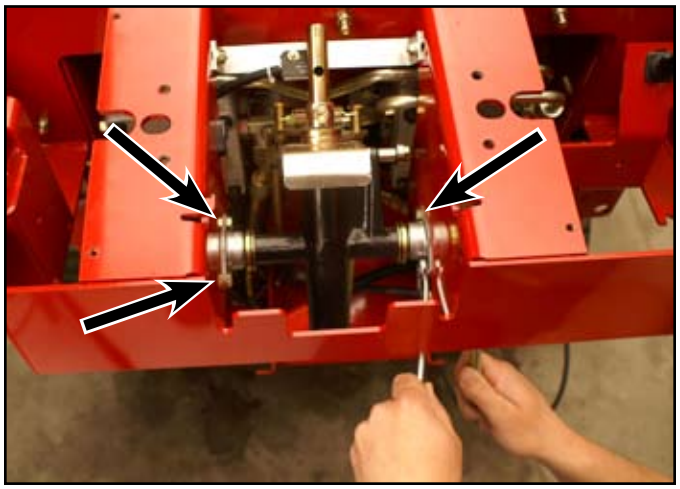

Fig 2083 PICT-1090

57. Remove the traction control valve assembly from the control panel (Fig. 2084).

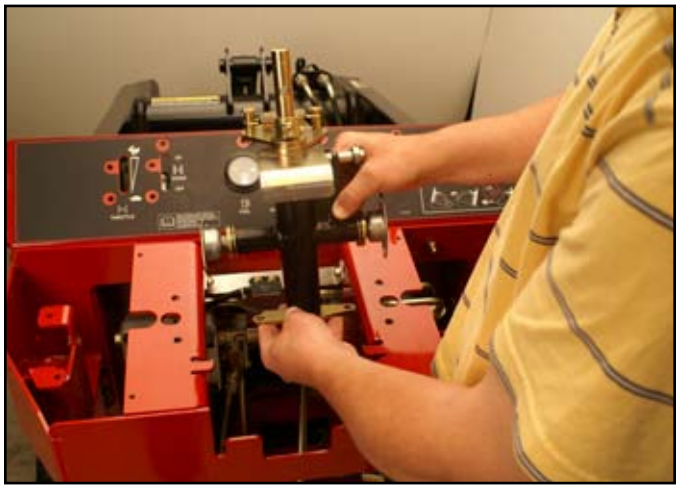

Fig 2084 PICT-1091

58. Install the traction control assembly into the replacement control panel (Fig. 2085).

Fig 2085 PICT-1092

59. Install the traction control bushings to the control panel with the 4 bolts and nuts. Tighten using a 1/2” socket and wrench (Fig. 2086).

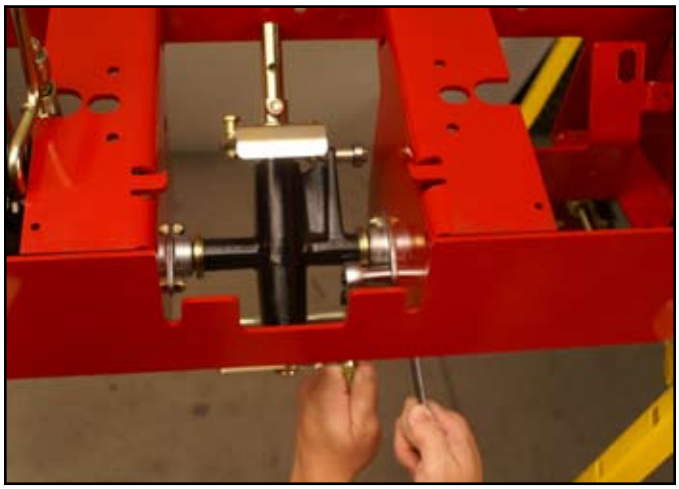

Fig 2086 PICT-1093

60. Install the neutral centering lever into the replacement control panel so that the bearing on the traction control handle rests against the stop on the neutral centering lever. Secure lever with the shoulder bolt and nut. Tighten using a 9/16” socket and wrench (Fig. 2087).

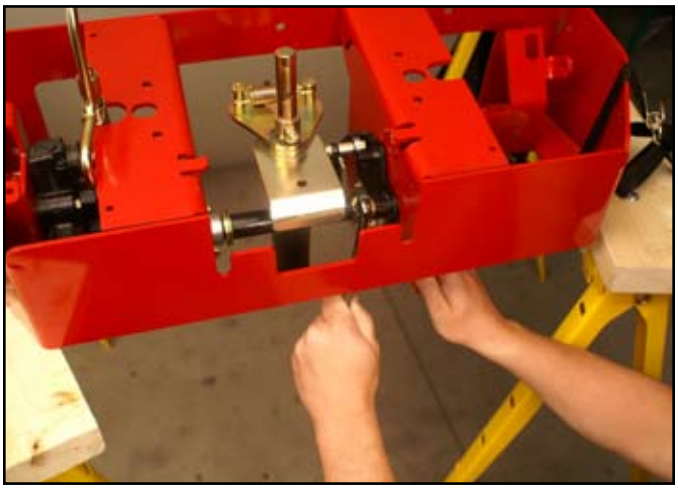

Fig 2087 PICT-1094

61. Using a 7/16” socket, install the lower eyebolt and nut into the replacement control panel so that the opening on the eyebolt faces down (Fig. 2088).

Fig 2088 PICT-1097

62. Using a 7/16” socket, remove both sets of carriage bolts, washers and star washers holding the proximity switch plate to the control panel (Fig. 2089).

Fig 2089 PICT-1098

63. Remove the proximity switch plate assembly from the control panel (Fig. 2090).

Fig 2090 PICT-1099

64. Loose fit the switch plate to the replacement control panel with the 2 sets of carriage bolts, washers and star washers (Fig. 2091).

Fig 2091 PICT-1100

65. Adjust the switch plate so that there is 5/8” (1.58cm) distance from the switch plate nut to the end of the slot in the control panel (Fig. 2092).

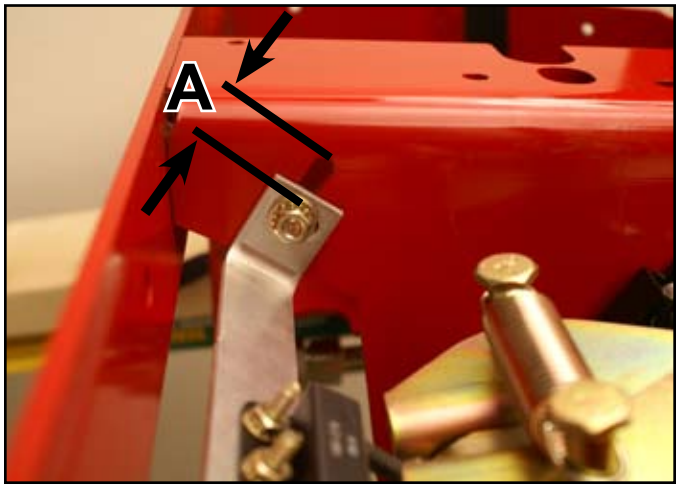

Fig 2092 PICT-1101

A. 5/8” (1.58cm)

66. Continue adjusting the switch plate so that there is a 1/16” (.16cm) clearance distance from the socket head screw and centered within the target (Circle) on switch (Fig. 2093).

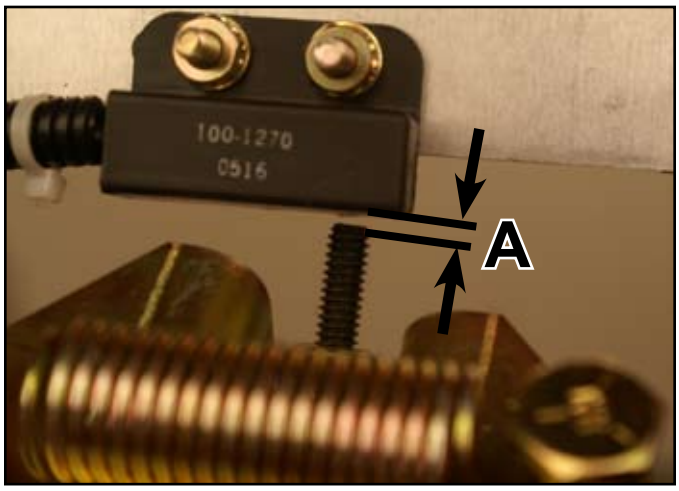

Fig 2093 PICT-1103

A. 1/16” (.16cm)

67. Using 7/16” socket, secure the switch plate in place (Fig. 2094).

Fig 2094 PICT-1109

68. Remove the hydraulic oil temperature audio alarm from the control panel (Fig. 2095).

Fig 2095 PICT-1108a

69. Install the hydraulic oil temperature audio alarm into the replacement control panel (Fig. 2096).

Note: The terminals on the audio alarm should be in the upward position.

Fig 2096 PICT-1110

70. Using a 7/16” socket and wrench, remove the bolt, wave washer and nut that hold the brake handle to the control panel (Fig. 2097).

Fig 2097 PICT-1111a

71. Remove the brake handle from the control panel (Fig. 2098).

Fig 2098 PICT-1113

72. Remove the boot from the brake switch on the control panel (Fig. 2099).

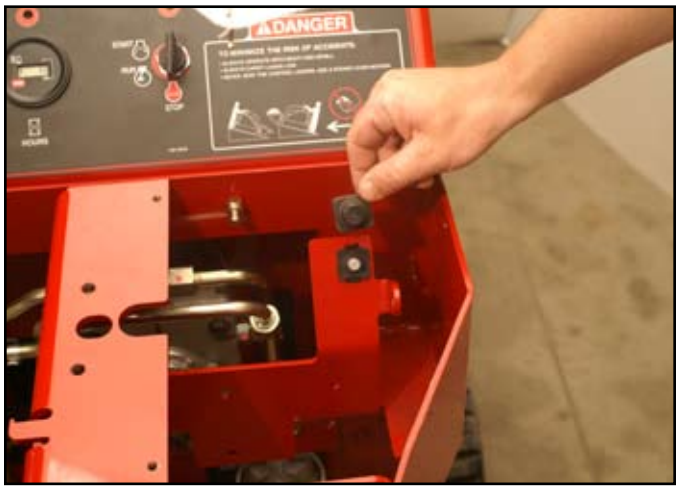

Fig 2099 PICT-1114

73. Squeeze the tabs on the brake switch and push it out of the control panel assembly (Fig. 2100).

Fig 2100 PICT-1115

74. Insert the brake switch into the replacement control panel (Fig. 2101).

Fig 2101 PICT-1116

75. Install the brake switch boot onto the brake switch (Fig. 2102).

Fig 2102 PICT-1117

76. Attach the brake handle to the replacement frame with the bolt, wave washer, handle and nut (Fig. 2103).

Fig 2103 PICT-1121

77. Tighten the brake handle assembly using a 9/16” socket and wrench (Fig. 2104).

Fig 2104 PICT-1122

78. Insert auxiliary handle through the stop plate (Fig. 2105).

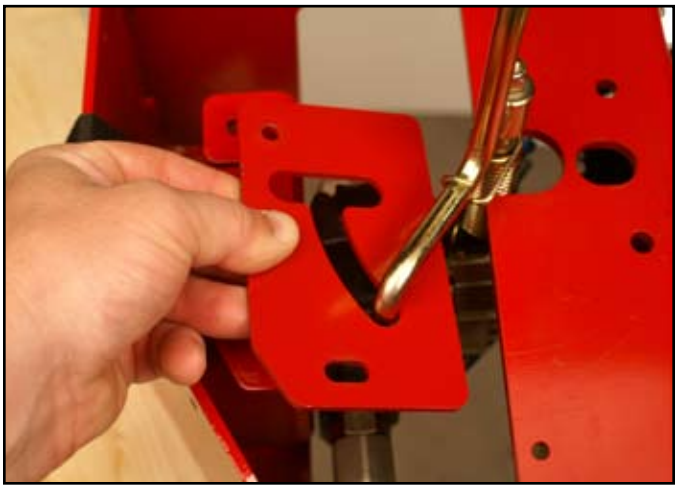

Fig 2105 PICT-1123

79. Position the auxiliary valve stop plate onto the replacement control panel and loosley install both bolts and nuts (Fig. 2106).

Fig 2106 PICT-1128

80. Using a 7/16” socket and wrench, snug the top bolt and nut (Fig. 2107).

Fig 2107 PICT-1126

81. Adjust the stop plate so the auxiliary handle returns freely with spring pressure only (Fig. 2108).

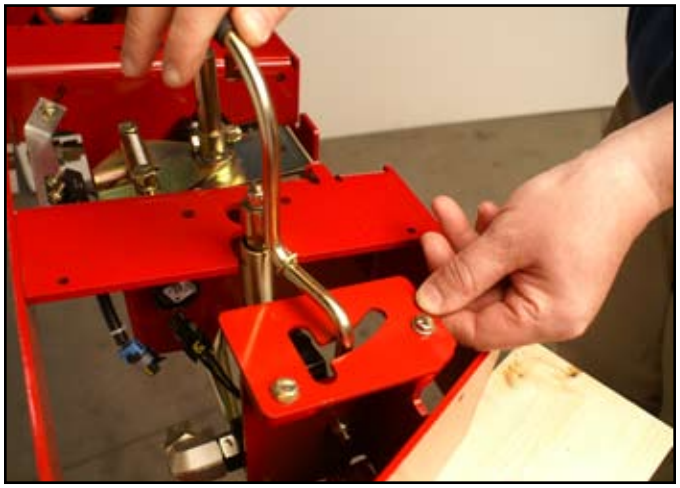

Fig 2108 PICT-1129

82. Tighten the bottom bolt and nut and then the top bolt and nut using a 7/16” socket and wrench (Fig. 2109).

Fig 2109 PICT-1132

83. Position the loader valve and attached hydraulic lines into the replacement control panel (Fig. 2110).

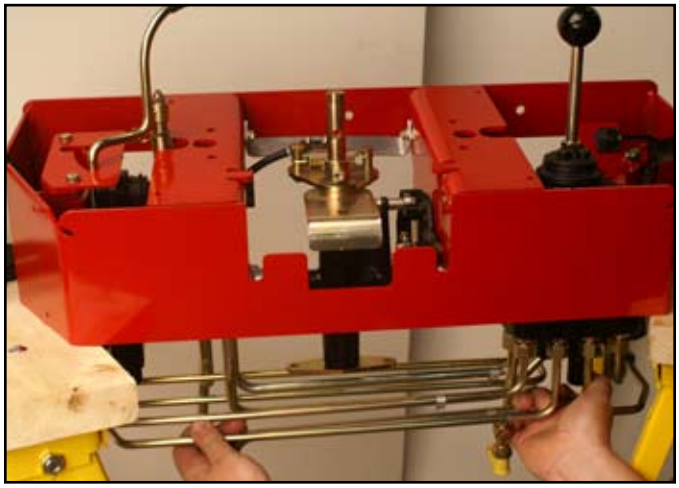

Fig 2110 PICT-1140

a. Feed the hydraulic lines/fittings marked E and F through the corresponding holes on the right side control panel bulkheads (Fig. 2111).

Fig 2111 PICT-1135

b. Feed the hydraulic lines marked A, B, C and D through the corresponding holes on the left side control panel bulkhead (Fig. 2112).

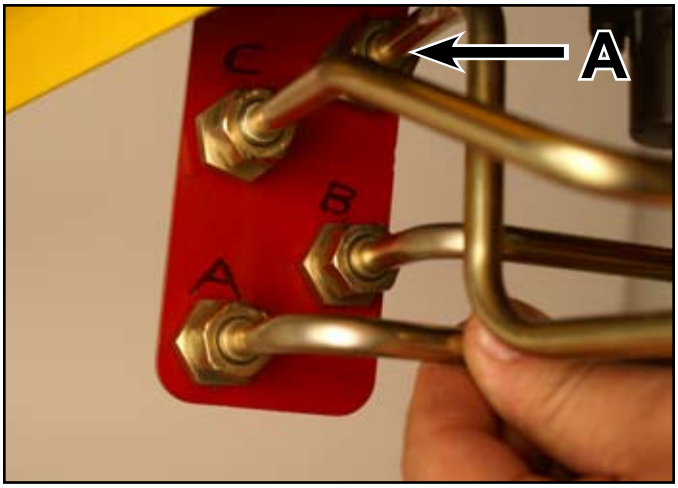

Fig 2112 PICT-1138

A. Hydraulic line marked D

c. Using a 1/2” socket, secure the valve to control panel with 3 bolts and lock washers (Fig. 2113).

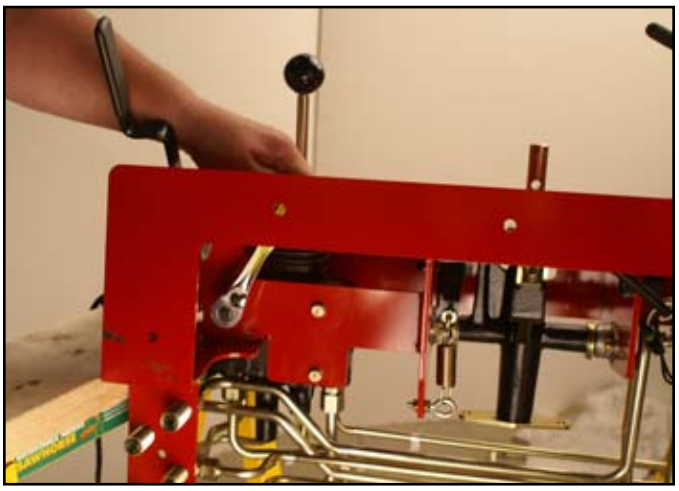

Fig 2113 PICT-1145

84. Install using a 1” socket and a 1-1/8” wrench, tighten all 8 bulkhead nuts (Fig. 2114).

Fig 2114 PICT-1150

85. Using a hoist, support the control panel (Fig. 2115).

Fig 2115 PICT-1156

86. Using a 9/16” socket and wrench, remove the 5 nuts and bolts retaining the control panel to the tower assembly (Fig. 2116).

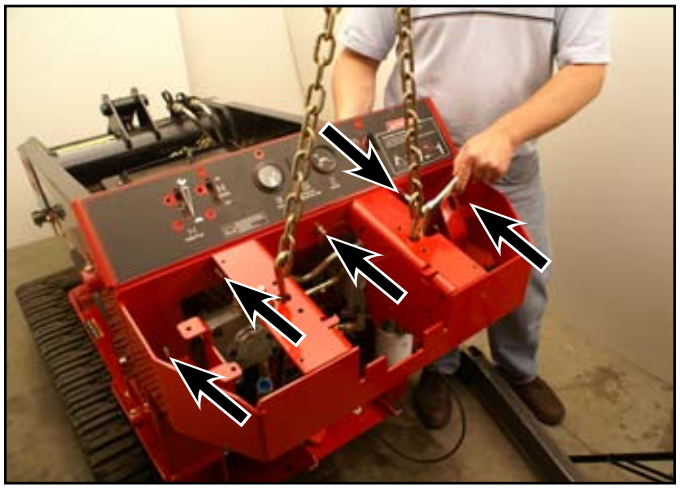

Fig 2116 PICT-1159

87. Remove the control panel from the tower assembly (Fig. 2117).

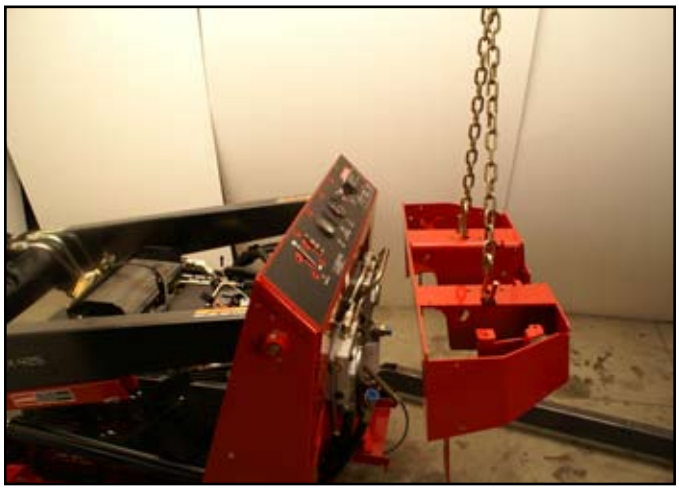

Fig 2117 PICT-1160

Loader Arm Removal

1. Secure the loader arm assembly with properly rated straps and lifting hoist (Fig. 2118).

Fig 2118 PICT-1162a

2. Using a 1/2” socket and wrench, remove the bolt and nut on the left and right lift cylinder pivot pins (Fig. 2119).

Fig 2119 PICT-1163a

3. Remove the left and right lift cylinder pivot pins (Fig. 2120).

Fig 2120 PICT-1164

4. Using a strap, secure both lift cylinders to the loader arm; this will prevent the cylinders from being damaged during removal and installation (Fig. 2121).

Fig 2121 PICT-1166a

5. Using a 1/2” socket and wrench, remove the bolt and nut on the left and right loader arm pivot pins (Fig. 2122).

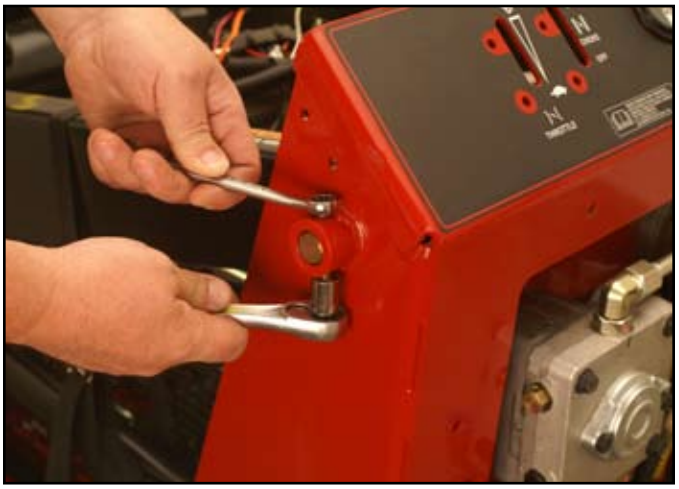

Fig 2122 PICT-1167

6. Remove the left and right loader arm pivot pins (Fig. 2123).

Fig 2123 PICT-1168

7. Remove the loader arm assembly from the tower assembly (Fig. 2124).

Note: To prevent damage to the hydraulic hoses, make sure they don’t get caught in the openings of the tower assembly.

Note: Place protective caps on the hydraulic lines to prevent contamination.

Fig 2124 PICT-1169a

Tower Removal

1. Remove the left and right side panels (Fig. 2125).

Fig 2125 PICT-1170

2. Secure the left hand pulley and, using a 5/8” socket, remove the nut and washer securing the pulley to the left hydraulic pump. Repeat for right hand pump pulley (Fig. 2126).

Fig 2126 PICT-1173

3. Using a pulley puller (Toro p/n 112-2557), remove the left and right pulleys from the hydrostatic pump shafts (Fig. 2127).

Fig 2127 PICT-5627

4. Mark the hydraulic oil return line and tank fitting with the letter “M”. Using 1-3/8” wrench, disconnect the hydraulic oil return line marked with the letter “M” (Fig. 2128).

Note: Cap the line and fitting so that debris does not enter the system.

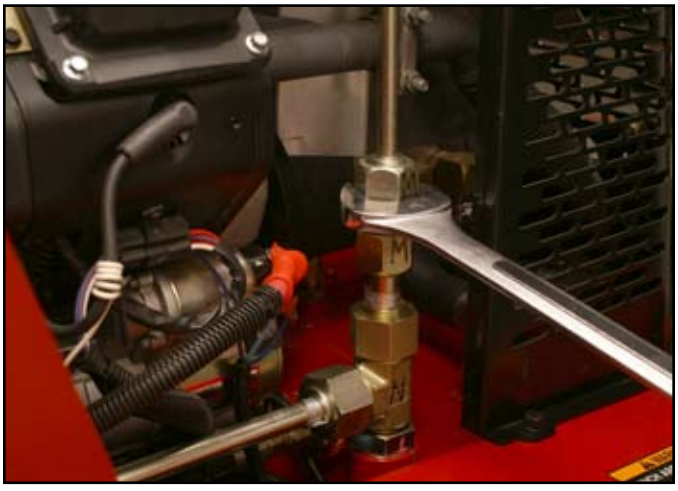

Fig 2128 PICT-1178a

5. Mark the hydraulic oil return line and connecting hydraulic oil filter fitting with the letter “Q” (Fig. 2129).

Fig 2129 PICT-1179a

6. Using a 15/16” wrench, disconnect the hydraulic oil return line from the hydraulic oil filter fitting (Fig. 2130).

Fig 2130 PICT-1180a

7. Mark the hydraulic lines and fittings connected to the A and B ports of the right hand hydrostatic pump with the letters “R” and “S” as shown: (Fig. 2131).

Fig 2131 PICT-1181a

8. Mark the hydraulic case drain line and fitting connected to the left hand hydrostatic pump with the letter “T” (Fig. 2132).

Fig 2132 PICT-1184a

9. Mark the remaining hydraulic line and fitting connected to the left hand hydrostatic pump with the letter “U” (Fig. 2133).

Fig 2133 PICT-1185a

10. Using a 15/16” wrench, disconnect the hydraulic line marked with the letter “R” (Fig. 2134).

Fig 2134 PICT-1186a

11. Using a 15/16” wrench, disconnect the hydraulic line marked with the letter “S” (Fig. 2135).

Fig 2135 PICT-1187a

12. Using a 15/16” wrench, disconnect the hydraulic line marked with the letter “T” (Fig. 2136).

Fig 2136 PICT-1188a

13. Using a 1-1/8” wrench, disconnect the hydraulic line marked with the letter “U” (Fig. 2137).

Note: Cap all hydraulic lines and fittings so that debris does not enter the system.

Fig 2137 PICT-1189a

14. Set the replacement tower up and secure it in place (Fig. 2138).

Fig 2138 PICT-1191

15. Using a 3/4” socket and wrench, remove the 2 bolts and nuts securing each hydrostatic pump to the tower assembly (Fig. 2139).

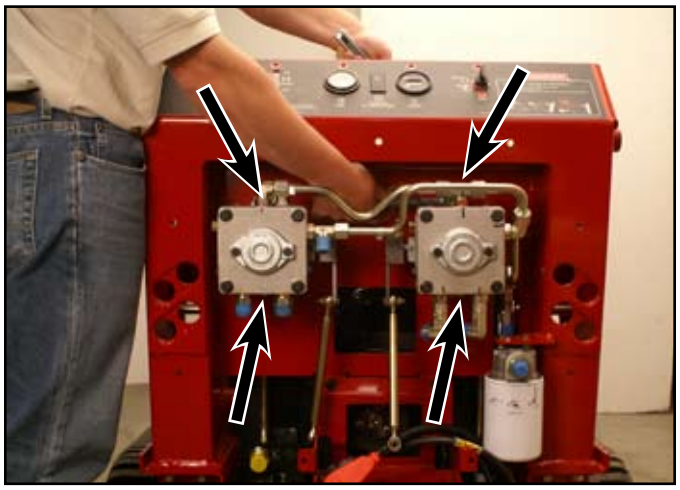

Fig 2139 PICT-1194

16. Remove the hydrostatic pump assembly from the tower assembly (Fig. 2140).

Note: As the hydrostatic pump assembly is removed, guide the hydraulic oil return line through the tower opening.

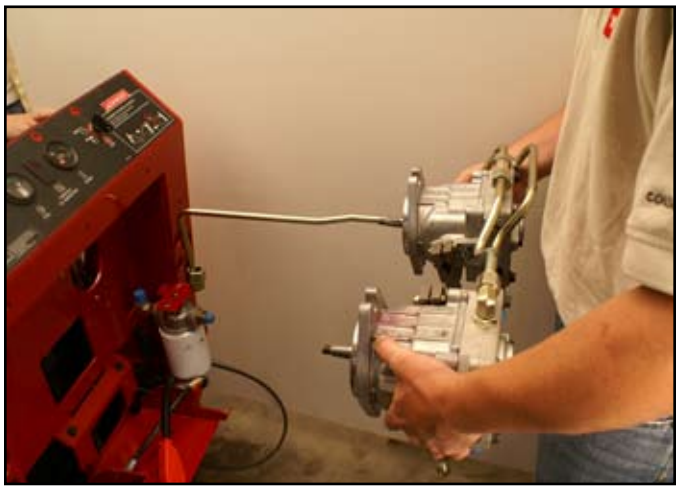

Fig 2140 PICT-1196

17. Remove the idler tension spring (Fig. 2141).

Fig 2141 PICT-1197

18. Using 1/2” socket and 9/16” wrench, remove the idler spring stud (Fig. 2142).

Fig 2142 PICT-1199

19. Using a 1/2” socket and 9/16” wrench, install the idler spring stud into the replacement tower (Fig. 2143).

Fig 2143 PICT-1200

20. Using a 1/2” socket and wrench, remove the idler arm assembly (Fig. 2144).

Fig 2144 PICT-1203

21. Using a 1/2” socket and wrench, install the idler arm assembly into the replacement tower (Fig. 2145).

Fig 2145 PICT-1204

22. Install the idler tension spring onto the idler arm assembly and idler spring stud (Fig. 2146).

Fig 2146 PICT-1206

23. Remove the model/serial plate from the tower assembly by drilling out the 2 rivets (Fig. 2147).

Fig 2147 PICT-1208

24. Install the model serial plate onto the replacement tower using 2 rivets (1/8” x 7/16”) (Fig. 2148).

Fig 2148 PICT-1209

25. Using a 15/16” wrench, remove the key switch assembly from the tower (Fig. 2149).

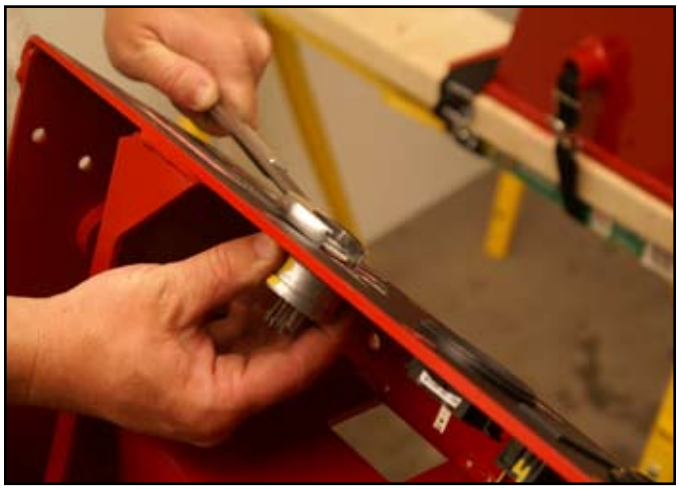

Fig 2149 PICT-1210

26. Using a 15/16” wrench, install the key switch assembly into the replacement tower (Fig. 2150).

Fig 2150 PICT-1213a

27. Remove the hourmeter by pushing up on the tabs located on the back and then pull the gauge out of the front of the tower (Fig. 2151).

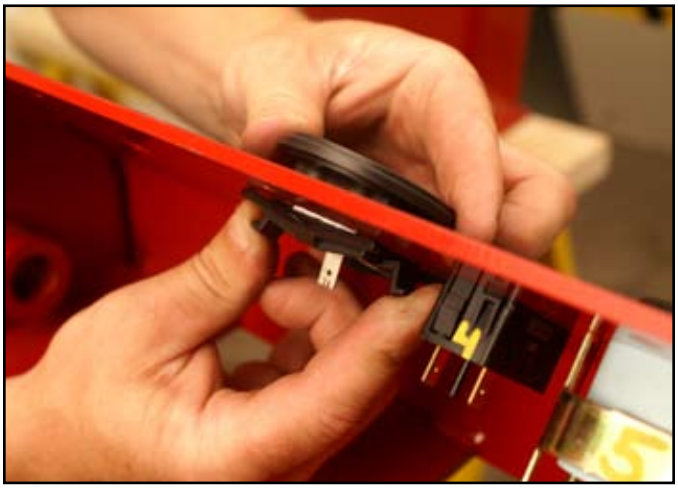

Fig 2151 PICT-1214

28. Install the hourmeter into the replacement tower by placing the bracket on the inside of the tower and sliding the hourmeter gauge through from the front of the tower. Push the gauge into the bracket until it snaps into place. (Fig. 2152).

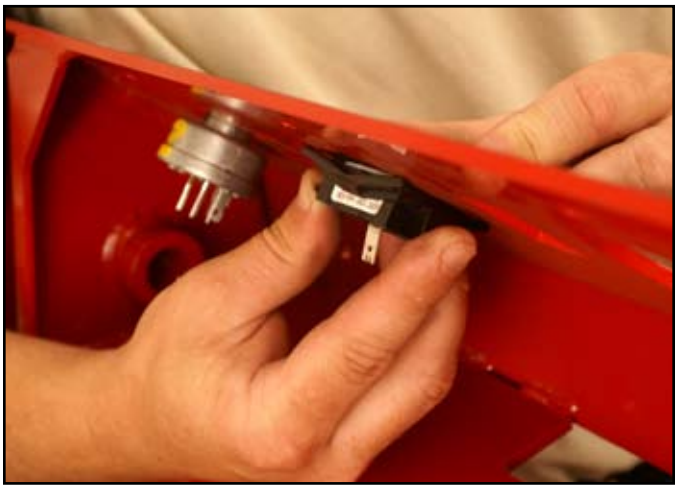

Fig 2152 PICT-1215

29. Remove the hydraulic oil temperature warning light from the tower by pressing the two tabs in and pulling the light out of the front of the tower (Fig. 2153).

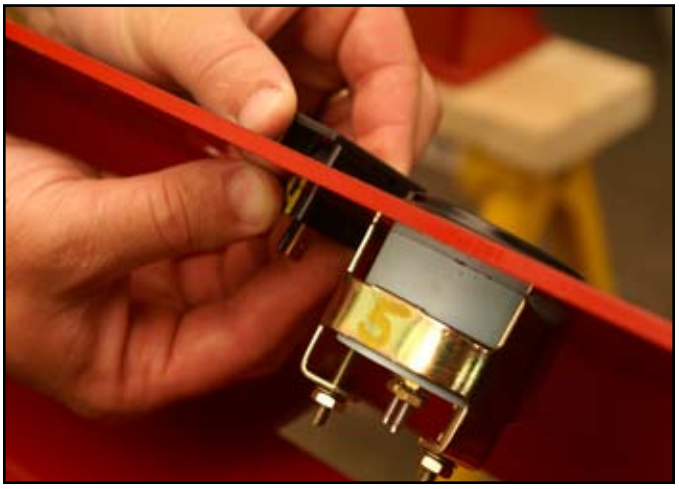

Fig 2153 PICT-1216

30. Install the hydraulic oil warning light into the replacement tower by pushing it in from the front side through to the back (Fig. 2154).

Fig 2154 PICT-1217

31. Remove the fuel gauge from the tower assembly by using a 11/32” wrench to remove the 2 nuts and star washers securing the fuel gauge to the tower (Fig. 2155).

Fig 2155 PICT-1219a

32. Install the fuel gauge and mating bracket onto the replacement tower (Fig. 2156).

Fig 2156 PICT-1220

33. Secure the fuel gauge and bracket into place with the 2 star washers and nuts (Fig. 2157).

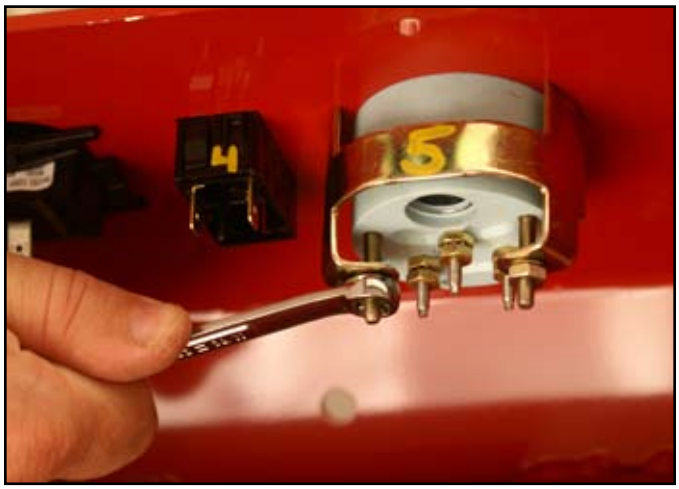

Fig 2157 PICT-1221

34. Using a 7/16” socket, remove the 2 screws and washers securing the filter head to the tower assembly (Fig. 2158).

Fig 2158 PICT-1222a

35. Remove the filter head assembly from the tower (Fig. 2159).

Fig 2159 PICT-1223a

36. Install the filter head assembly to the replacement tower using the 2 screws and washers and a 7/16” socket (Fig. 2160).

Note: The 90 degree fitting (marked with the letter “Q”) on the filter head assembly should be facing toward the tower. Replace filter prior to start up.

Fig 2160 PICT-1224

37. Remove the battery mounting tray by using a 9/16” socket to remove the 2 self-tapping bolts (Fig. 2161).

Fig 2161 PICT-1225a

38. Install the battery mounting tray to the replacement tower using the 2 self-tapping bolts and a 9/16” socket (Fig. 2162).

Fig 2162 PICT-1226

39. Install the hydrostatic pump assembly into the replacement tower (Fig. 2163).

Fig 2163 PICT-1227

40. Secure the hydrostatic pump assembly into place by installing and tightening the 4 bolts and nuts using a 3/4” socket and wrench (Fig. 2164).

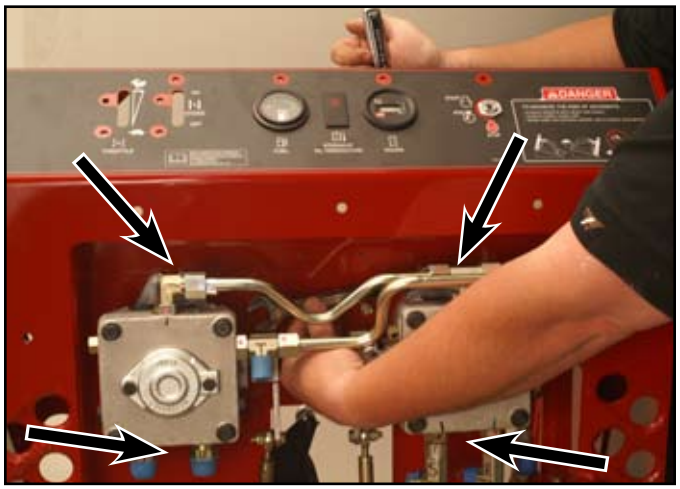

Fig 2164 PICT-1229

41. Install the hydrostatic pump pulleys (Fig. 2165).

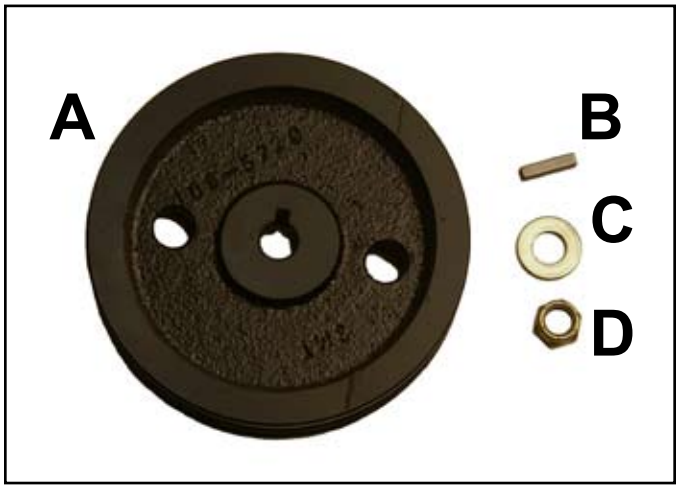

Fig 2165 PICT-1230a

A. Pulley
B. Key
C. Washer
D. Nut

42. Position the key in the keyway of the hydrostatic pump shaft (Fig. 2166).

Fig 2166 PICT-1232

43. Slide the pulley onto the hydrostatic pump shaft aligning the keyway with the key (Fig. 2167).

Fig 2167 PICT-1234a

44. Using a 5/8” socket, install the washer and nut onto the hydrostatic pump shaft. Torque the nut to 18 - 25 ft-lbs. (24 - 33.9 Nm) (Fig. 2168).

Fig 2168 PICT-1236

45. Using a 9/16” socket and wrench, remove the 2 bolts, spacer tubes and nuts from the tower (Fig. 2169).

Fig 2169 PICT-1237

46. Using a 9/16” socket and wrench, install the spacer, bolt and nut into both the left hand and right hand sides of the tower assembly (Fig. 2170).

Fig 2170 PICT-1239

47. Disconnect the wire harness from the inside of the lower right portion of the tower (Fig. 2171).

Fig 2171 PICT-1240a

48. Secure the tower to a hoist using chains or straps. Raise the hoist so that there is tension on the chains/straps (Fig. 2172).

Fig 2172 PICT-1244

49. Using a 3/4” socket and wrench, remove the 10 fasteners that secure the tower to the frame (five nuts and bolts on each side) (Fig. 2173).

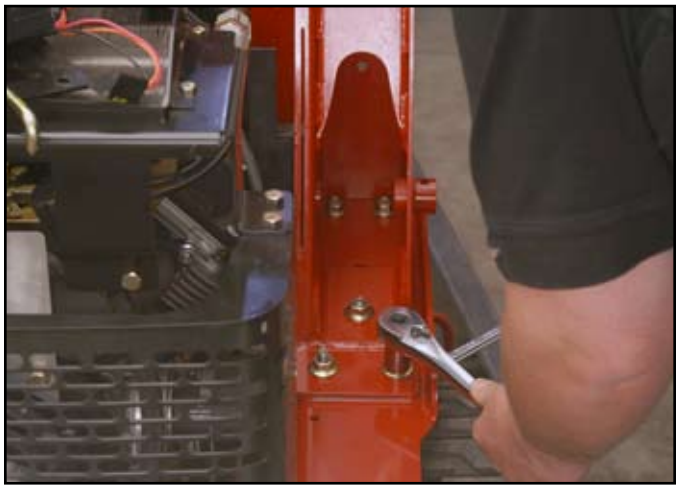

Fig 2173 PICT-1247a

Note: The rear two bolts on each side hold an additional spacer plate to the underside of the frame (Fig. 2174).

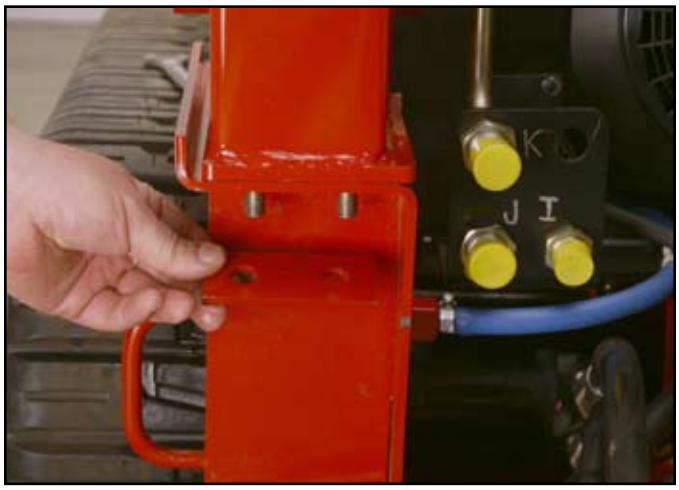

Fig 2174 PICT-1251a

Note: The 4 front-most bolts (2 on each side) will not be able to be removed completely due to track interference (Fig. 2175).

Fig 2175 PICT-1252a

50. Raise the hoist and remove the tower from the frame (Fig. 2176).

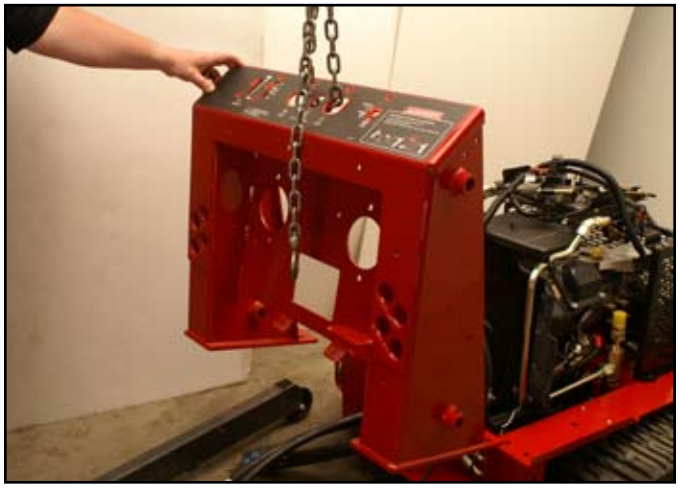

Fig 2176 PICT-1253

51. Insert the loader arm pivot pins into the pivot pin holes on both sides of the replacement tower. Secure the pivot pins with a bolt and nut (Fig. 2177).

Fig 2177 PICT-1255

52. Attach hoist lift chains to the pivot pins (Fig. 2178).

Fig 2178 PICT-1258

53. Raise the replacement tower and position the replacement tower onto the frame (Fig. 2179).

Fig 2179 PICT-1259

54. To begin securing the tower assembly to the frame, loosely install the front three bolts and nuts on both sides of the tower assembly. The bolts are installed from the bottom of the frame and the nuts are installed from the top (Fig. 2180).

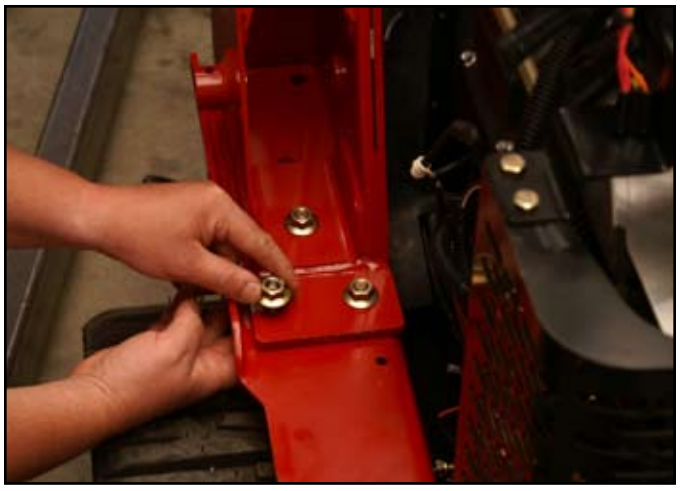

Fig 2180 PICT-1260

55. Loosely install the rear two bolts on both sides of the tower assembly. The bolts are installed from the top of the frame. Before installing the nuts, slide each spacer in place on the bottom side of the frame (Fig. 2181).

Fig 2181 PICT-1262a

56. Position the tower assembly so that the tower mounting plates and mating frame plates are flush on the rear facing edges (Fig. 2182).

Fig 2182 PICT-1264

57. Using a 3/4” socket and wrench, tighten all 10 bolts and nuts to secure the tower assembly to the frame. Torque all 10 bolts to 75 ± 8 ft-lbs. (102 ± 11 Nm) (Fig. 2183).

Fig 2183 PICT-1265a

Torque Procedure:
1. Start with the middle bolt and nut.
2. Then torque the front bolt and nut.
3. Finally, the rear bolt and nut.

58. Lower the hoist and remove the chains from the tower assembly.

59. Remove both sets of pivot pins, bolts and nuts from the tower assembly (Fig. 2184).

Fig 2184 PICT-1267

60. Attach the wire harness to the lower right inside of the tower assembly (Fig. 2185).

Fig 2185 PICT-1270a

61. Using a 15/16” wrench, connect the hydraulic oil return line to the hydraulic oil filter head assembly (both marked with “Q”) (Fig. 2186).

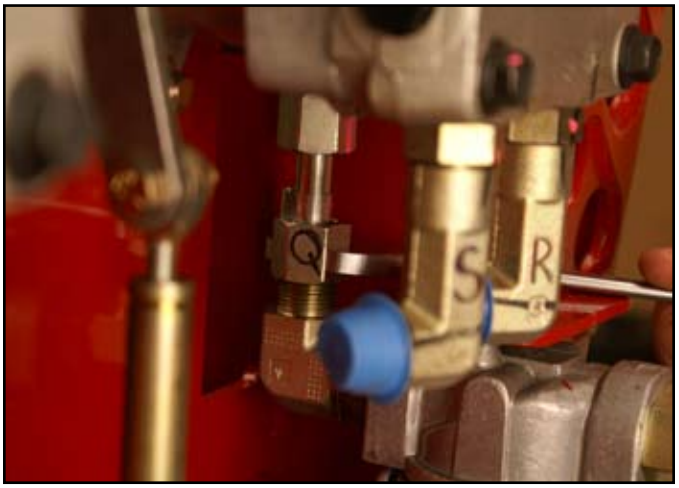

Fig 2186 PICT-1272

62. Using a 1-3/8” wrench, connect the hydraulic oil return line to the oil return tank fitting (both marked “M”) (Fig. 2187).

Fig 2187 PICT-1274a

63. Using a 15/16” wrench, connect the hydraulic hose marked with an “R” to the lower right hand port on the right side hydrostatic pump (also marked with an “R”) (Fig. 2188).

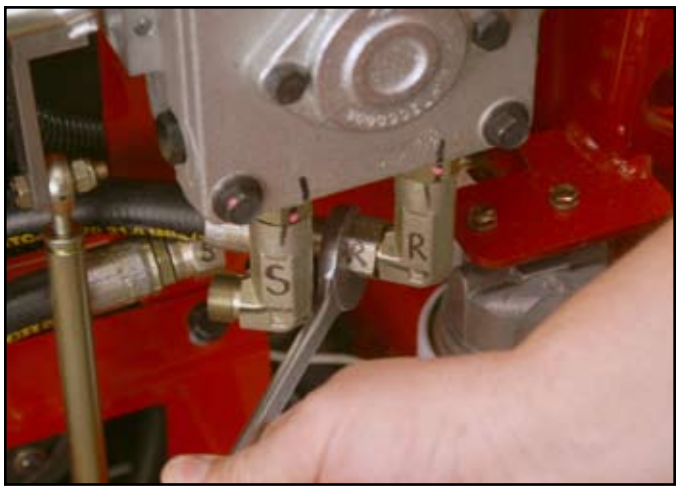

Fig 2188 PICT-1278a

64. Using a 15/16” wrench, connect the hydraulic hose marked with an “S” to the lower left hand port on the right side hydrostatic pump (also marked with an “S”) (Fig. 2189).

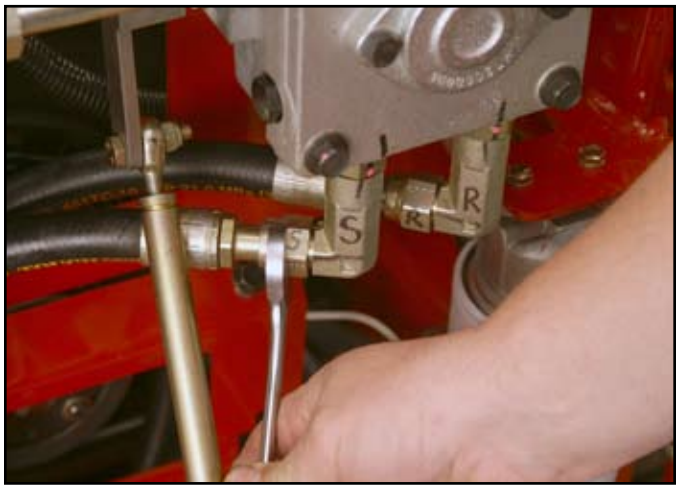

Fig 2189 PICT-1279a

65. Using a 15/16” wrench, connect the case drain hose to the left hand hydrostatic pump T fitting (hose and fitting are marked with the letter “T”) (Fig. 2190).

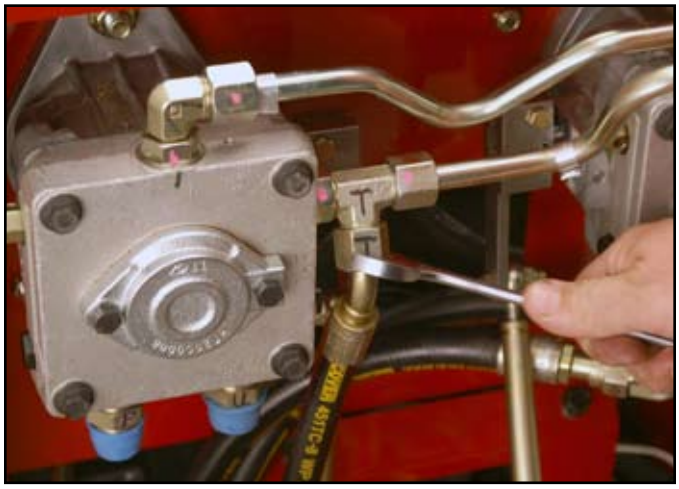

Fig 2190 PICT-1280a

66. Using a 1-1/8” (2.85cm) wrench, connect the hydraulic hose marked with the letter “U” to the lower right hand port on the left side hydrostatic pump (also marked with a “U”) (Fig. 2191).

Fig 2191 PICT-1282a

Replacement Control Panel Installation

1. Attach the hoist and lift chains to the replacement control panel and lift into place behind the tower assembly (Fig. 2192).

Note: Carefully guide the hydraulic oil return line through the tower and engine baffle. Ensure that the wire harness is to the right and on the outside of the hydraulic return line.

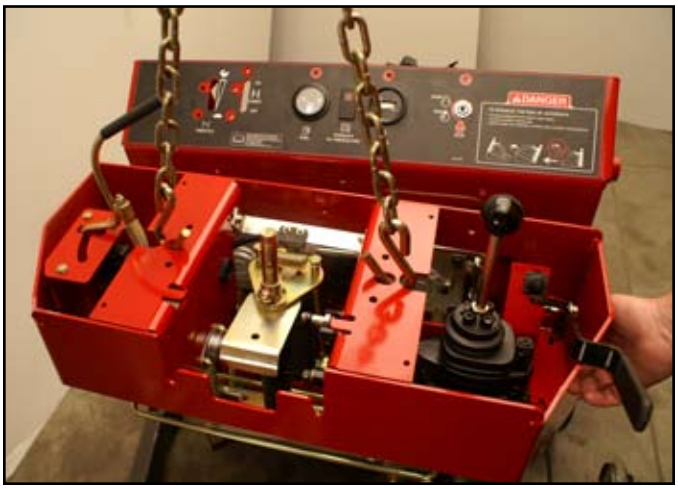

Fig 2192 PICT-1284

2. Raise the control arms so that they are above the hydraulic hard lines on the control panel assembly (Fig. 2193).

Fig 2193 PICT-1285

3. Attach the control panel assembly to the tower assembly with the 5 bolts and nuts using a 9/16” socket and wrench (Fig. 2194).

Fig 2194 PICT-1286

4. Remove the hoist and chains from the replacement control panel assembly.

5. Using a 1-1/8” wrench, connect the hydraulic hose marked with the letter “P” to the lower left port on the left hand hydraulic pump (Fig. 2195).

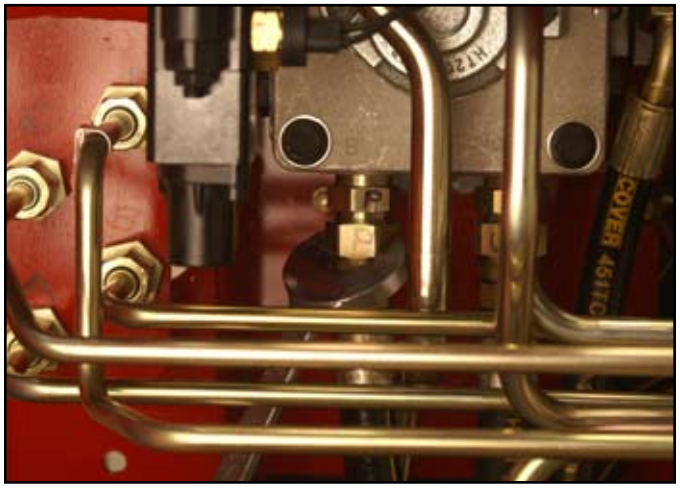

Fig 2195 PICT-1288

6. Using a 15/16” wrench, connect the hydraulic hard line marked with the letter “I” to the engine plate bulkhead fitting (also marked with the letter “I”) (Fig. 2196).

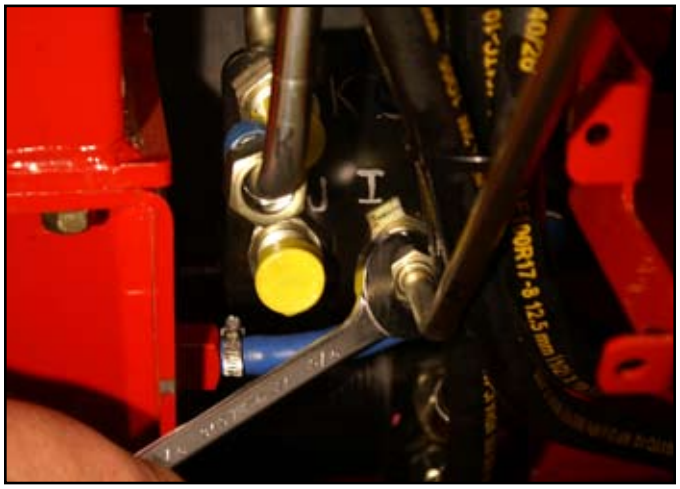

Fig 2196 PICT-1292

7. Using a 1-1/8” wrench, connect the hydraulic line marked with the letter “K” to the engine plate bulkhead fitting (also marked with the letter “K”) (Fig. 2197).

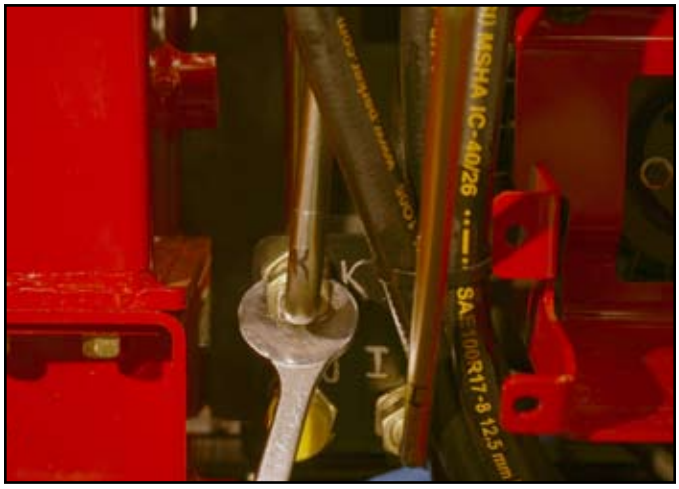

Fig 2197 PICT-1293a

8. Insert the lower end of the hydraulic hard line (marked with the letter “J”) in between and behind the hydraulic hoses coming off the bottom of the left hand hydraulic pump (marked with the letters “P” and “U”) (Fig. 2198).

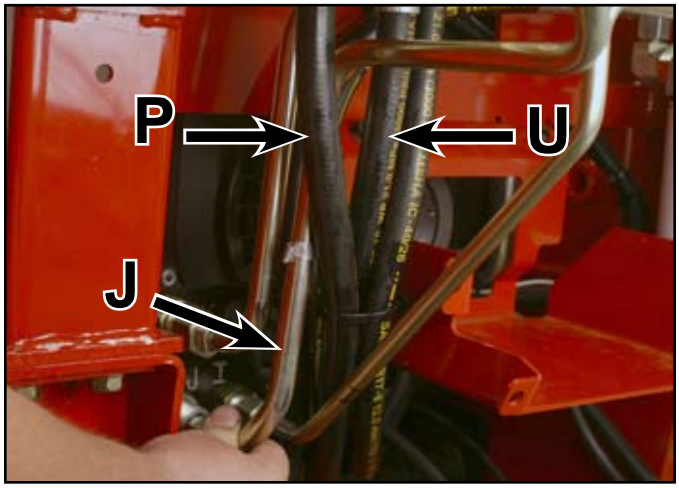

Fig 2198 PICT-1301a

9. Using a 1-1/8” wrench, connect the upper end of the hydraulic line marked with the letter “J” to the auxiliary spool valve (Fig. 2199).

Fig 2199 PICT-1303a

10. Using a 1-1/8” wrench, connect the lower end of the hydraulic hose marked with the letter “J” to the engine plate bulkhead fitting marked “J” (Fig. 2200).

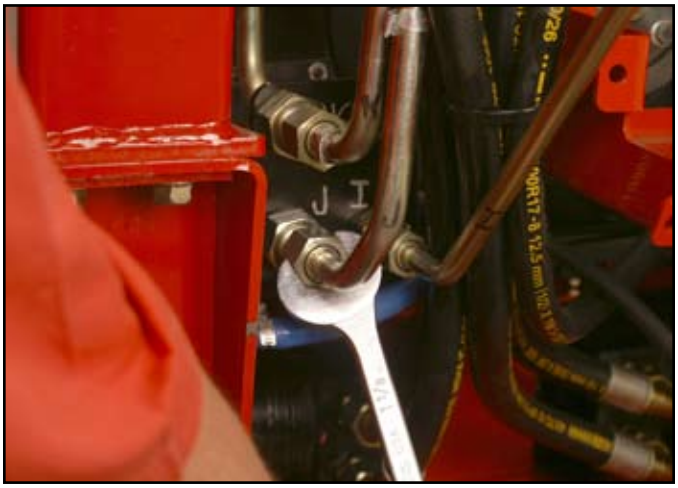

Fig 2200 PICT-1304a

11. Install the control arm linkage rods to the to the drive rod assembly by installing each bolt up through the drive rod ends. The spacers are installed between the drive rod ends and the drive rod, and the nut is installed above the drive rod assembly (Fig. 2201).

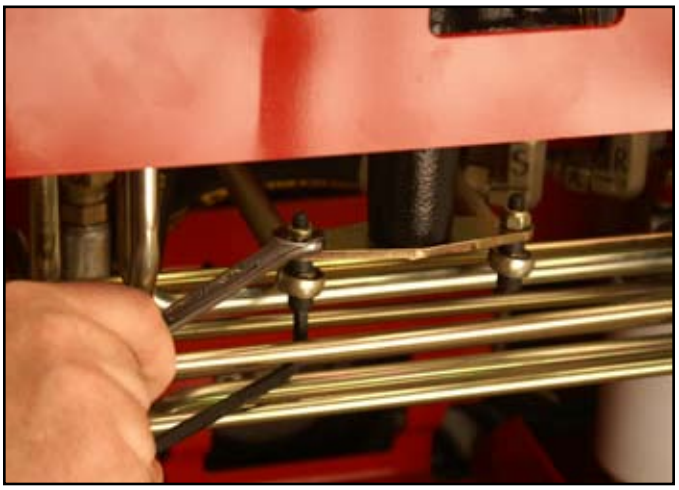

Fig 2201 PICT-1310

12. Using a 15/16” wrench, connect the hydraulic line marked with the letter “O” to the hydraulic oil filter head inlet fitting (also marked with an “O”) (Fig. 2202).

Fig 2202 PICT-1312a

13. Feed the brake cable up through the hydraulic lines into the control panel housing up to the brake handle (Fig. 2203).

Fig 2203 PICT-1316

14. Connect the brake cable to the brake handle with a clevis pin. Install the cotter pin into the clevis pin (Fig. 2204).

Fig 2204 PICT-0599

15. Slide the protective rubber boot up the brake cable to expose the stud threads. Adjust the upper nut to approximately 4 threads from the top of the stud. Slide the rubber boot back down and install the threaded stud into the slot in the control panel. The slot should be between the two nuts on the threaded stud. Using a 1/2” wrench, tighten the lower nut on the brake cable stud (Fig. 2205).

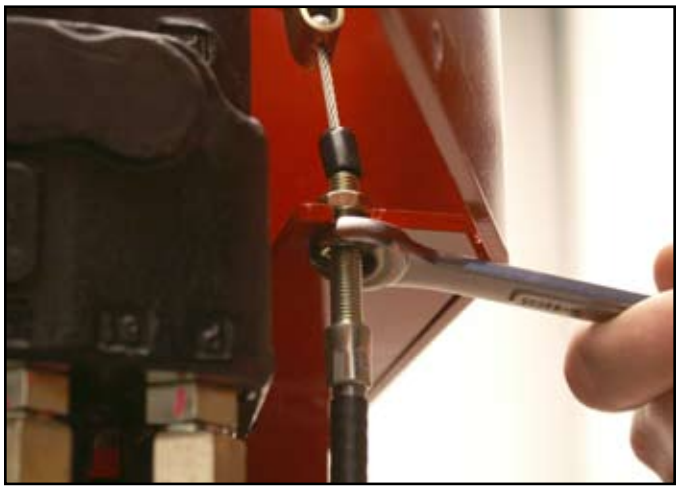

Fig 2205 PICT-0598a

Wire Harness Reinstallation

1. Feed the wire harness connectors marked with the numbers 6, 7, 8, and 9 through the opening in the tower and into the control panel area (Fig. 2206).

Fig 2206 PICT-1319

2. Using a 1/2” socket, attach the fuse/relay bracket assembly to the inside of the tower assembly with 2 self-tapping bolts (Fig. 2207).

Note: The spring on the hood prop rod should lay flat on the tower.

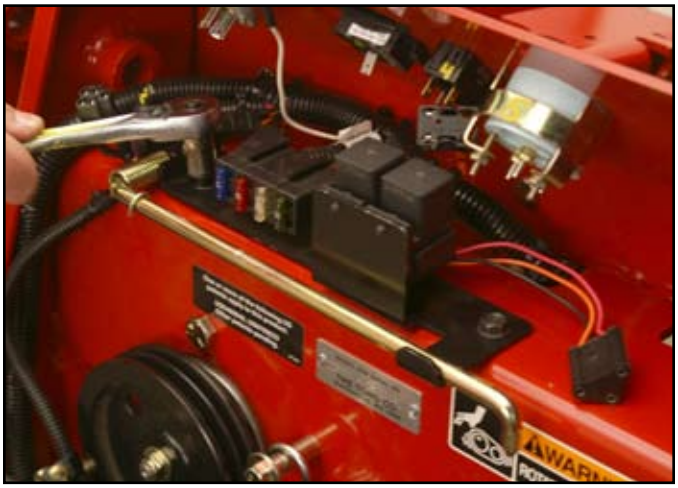

Fig 2207 PICT-1322a

3. Connect the single purple wire (marked with number 2) to the key switch assembly (Fig. 2208).

Fig 2208 PICT-1325

4. Connect the five wire connector (marked with a number 2) to the key switch assembly (Fig. 2209).

Fig 2209 PICT-1326a

5. Connect the single white wire (marked with the number 3) to the hour meter (Fig. 2210).

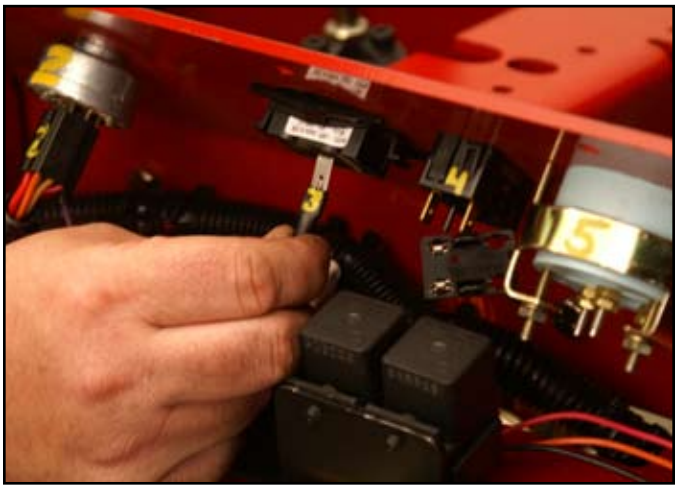

Fig 2210 PICT-1328

6. Connect the 2 wire connector (marked with number 4) to the hydraulic oil temperature light (Fig. 2211).

Fig 2211 PICT-1329

7. Connect the 3 wire connector (marked with number 5) to the fuel gauge (Fig. 2212).

Fig 2212 PICT-1330

8. Install the wire harness behind the wiring shield with 2 self tapping bolts using a 1/2” socket (Fig. 2213).

Fig 2213 PICT-1331a

9. Install the choke handle assembly (marked with the letter “C”) into the tower (Fig. 2214).

Fig 2214 PICT-1374

10. Secure the choke to the tower with 2 sets of bolts, washers and nuts using a 3/8” socket and wrench (Fig. 2215).

Note: The washer goes between the bolt head and tower.

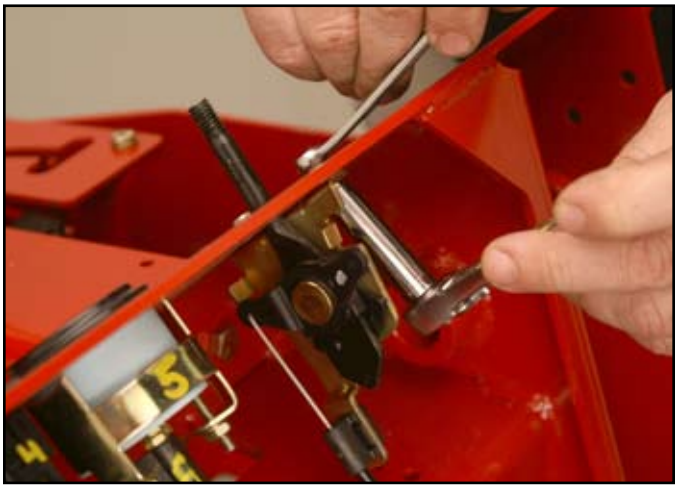

Fig 2215 PICT-1334a

11. Install the throttle handle assembly into the tower (Fig. 2216).

Fig 2216 PICT-1336

12. Secure the throttle to the tower with 2 sets of bolts, washers and nuts using a 3/8” socket and wrench (Fig. 2217).

Note: The washer goes between the bolt head and tower.

Fig 2217 PICT-1338

13. Position the cable guide bracket onto the tower assembly (Fig. 2218).

Fig 2218 PICT-1339

14. Secure the cable guide bracket to the tower with a self tapping screw using a 1/2” socket (Fig. 2219).

Note: Route the throttle and choke cable through the left side opening of the engine baffle, alongside the oil cooler inlet hydraulic line.

Fig 2219 PICT-1340

15. Install the throttle and cable handle knobs (Fig. 2220).

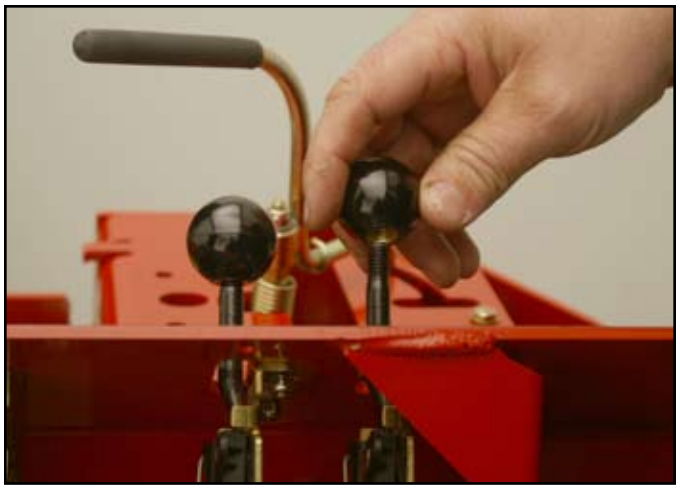

Fig 2220 PICT-1341a

Note: Remove belt spring from idler.

16. With a straight edge, check that engine crankshaft pulley is aligned with a hydrostatic pulley. Loosen and align the crankshaft pulley if neccessary (Fig. 2221).

Fig 2221 DSC-0891

17. Install the v-belt onto the pulleys (Fig. 2222).

Fig 2222 PICT-0921

18. Using a spring removal tool (P/N 92-5771), install the extension spring onto the idler pulley and stud located on the tower assembly (Fig. 2223).

Fig 2223 PICT-1342a

19. Connect the auxiliary valve connector (marked with a number 6) to the auxiliary valve (Fig. 2224).

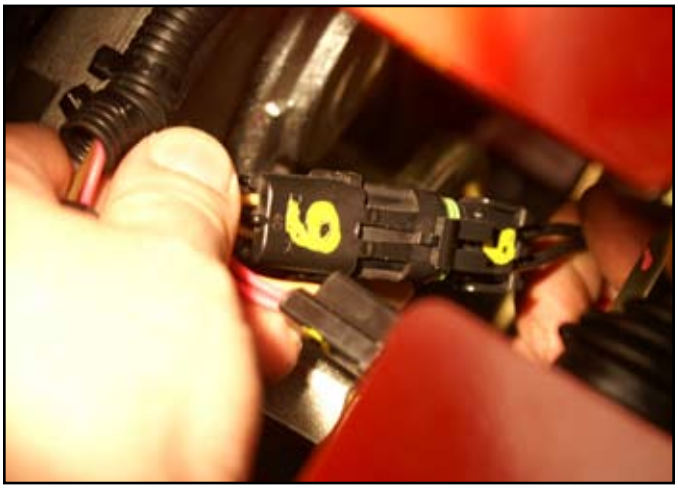

Fig 2224 PICT-1344

20. Connect the audio alarm connector (marked with number 7) to the hydraulic oil temperature audio alarm (Fig. 2225).

Fig 2225 PICT-1345

21. Connect the proximity connector (marked with number 8) to the proximity switch (Fig. 2226).

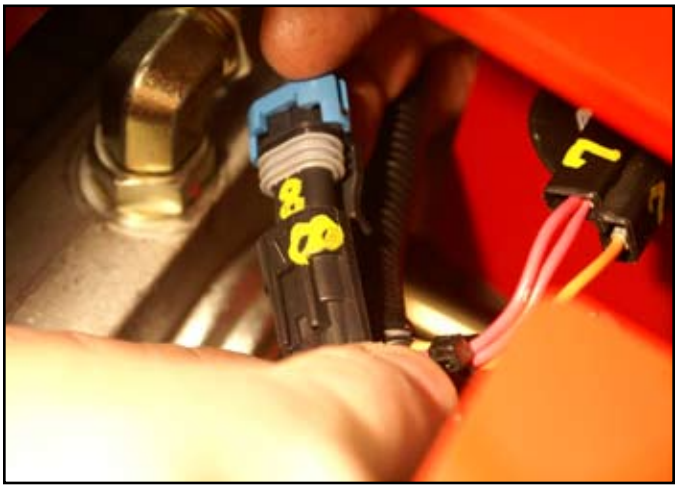

Fig 2226 PICT-1347

22. Connect the brake switch connector (marked with number 9) to the brake switch (Fig. 2227).

Fig 2227 PICT-1348

23. Install the reverse plate onto the control panel by sliding the back pocket on the reverse plate onto the rear center section of the control panel (Fig. 2228).

Fig 2228 PICT-1350

24. Install the shoulder bolts, springs and nuts to secure the reverse plate to the control panel (Fig. 2229).

Note: The black spring is installed on the left side of the reverse plate from operator's position.

Fig 2229 PICT-1353a

25. Tighten the reverse plate shoulder bolts and nuts using a 9/16" socket and wrench (Fig. 2230).

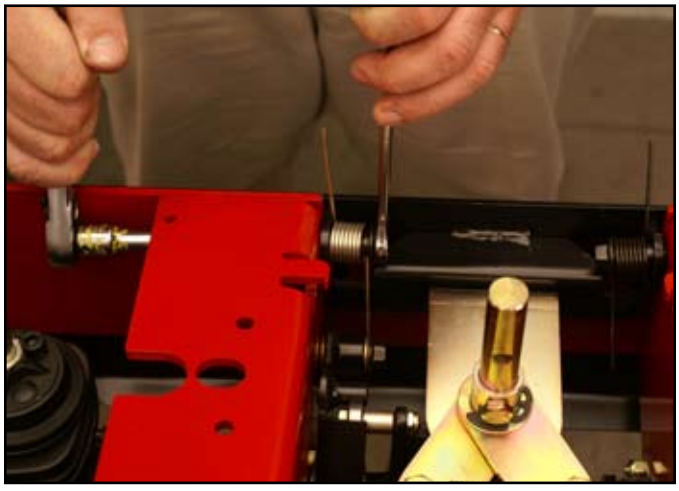

Fig 2230 PICT-1354

26. Install the spring extensions of both springs under the tabs located on the control panel (Fig. 2231).

Fig 2231 PICT-1357

27. Install the center control panel plate over the drive rod assembly (Fig. 2232).

Fig 2232 PICT-1358

28. Install the reference handle and control bar assembly onto the drive rod (Fig. 2233).

Fig 2233 PICT-1360

29. Secure the reference bar assembly to the control pane with 4 self-tapping bolts using a 1/2” socket (Fig. 2234).

Fig 2234 PICT-1363

30. Loosely install the bolt and nut to secure the control handle to the drive rod assembly (Fig. 2235).

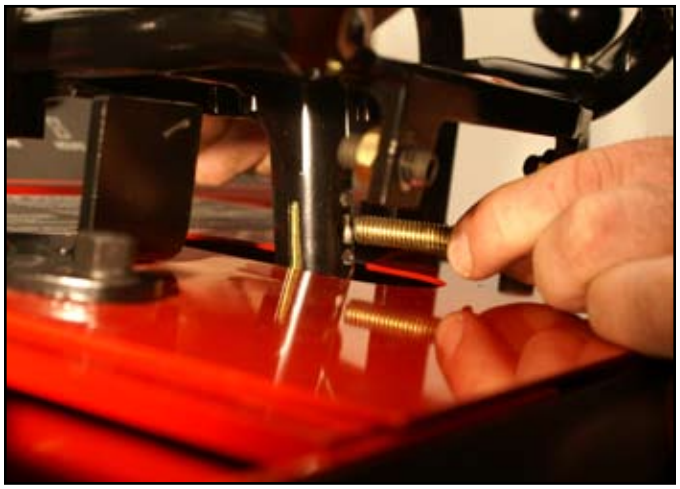

Fig 2235 PICT-1364

31. Using 9/16” socket and wrench, tighten the bolt and nut to secure the control handle to the drive rod assembly (Fig. 2236).

Note: Adjust the straightness of the control handle in relation to the reference bar. The front control handle bar should be parallel with the reference bar.

Fig 2236 PICT-1366

32. Install the right hand control panel plate over the brake handle (Fig. 2237).

Fig 2237 PICT-1367

33. Install and tighten the 4 self-tapping screws using a 3/8” socket to secure the right hand control panel plate to the control pane (Fig. 2238).

Fig 2238 PICT-1370

34. Install the left hand control panel plate over the auxiliary lever (Fig. 2239).

Fig 2239 PICT-1371

35. Install and tighten the 4 self-tapping screws using a 3/8” socket to secure the left hand control panel plate to the control panel (Fig. 2240).

Fig 2240 PICT-1372

Loader Arm Assembly Installation

1. Lift the loader arm assembly with a properly rated hoist and position the lift arm assembly so that the lift arm pivot points are above the tower assembly (Fig. 2241).

Fig 2241 PICT-1376a

2. Release tension on the straps securing the lift cylinders to the loader arm. Lower the lift cylinders so that they will enter the tower assembly below the tower assembly support brackets. Position a jack stand under the quick attach assembly at approximately 18” (45.72cm) high. Lower the loader arm assembly so that the loader arms rest on the tower assembly (2” overlap) (5.08cm), the quick attach assembly rests on the jack stand, and the lift cylinders enter the lower opening in the tower (Fig. 2242).

Fig 2242 PICT-1377a

3. Secure the loader arm assembly to the frame using straps that connect the quick attach assembly to both of the loader arm stop brackets on the frame. (Fig. 2243).

Fig 2243 PICT-1378

4. Remove the protective caps from the lift cylinder and tilt cylinder hydraulic lines on the left side of the lift arm assembly and from the bulkhead fittings on the left side of the tower.

5. Feed the lift cylinder hydraulic lines (A and B) through the left side lower tower opening (Fig. 2244).

Fig 2244 PICT-1381

6. Connect the lift cylinder hydraulic lines (marked A and B) to the left side hydraulic bulkhead fittings marked A and B (Fig. 2245).

Note: Connect the hydraulic line and fitting marked B and then the line and fitting marked A.

Fig 2245 PICT-1383

7. Lower the left lift cylinder. Feed the tilt cylinder hydraulic lines (C and D) through the lower tower opening above the lift cylinder (Fig. 2246).

Fig 2246 PICT-1385

8. Connect the tilt cylinder hydraulic lines (marked C and D) to the left side hydraulic bulkhead fittings marked C and D (Fig. 2247).

Note: Connect the hydraulic line and fitting marked D and then the line and fitting marked C.

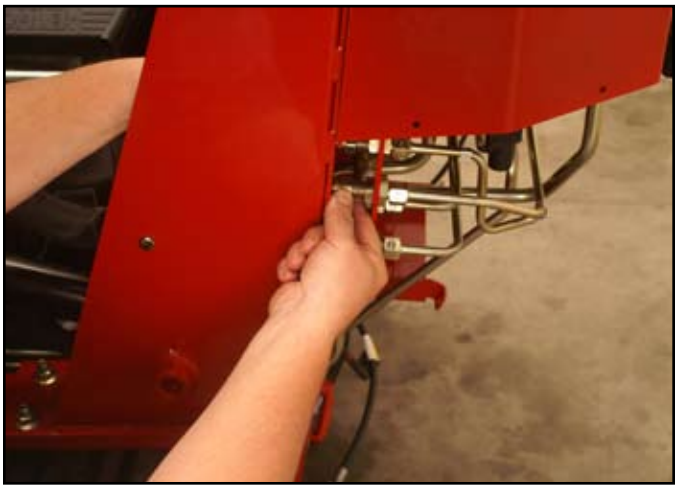

Fig 2247 PICT-1388

9. Using a 13/16” wrench on the tilt cylinder lines and a 7/8” wrench on the lift cylinder lines, tighten all 4 hydraulic lines and fittings (marked A – D) on the left side hydraulic bulkhead (Fig. 2248).

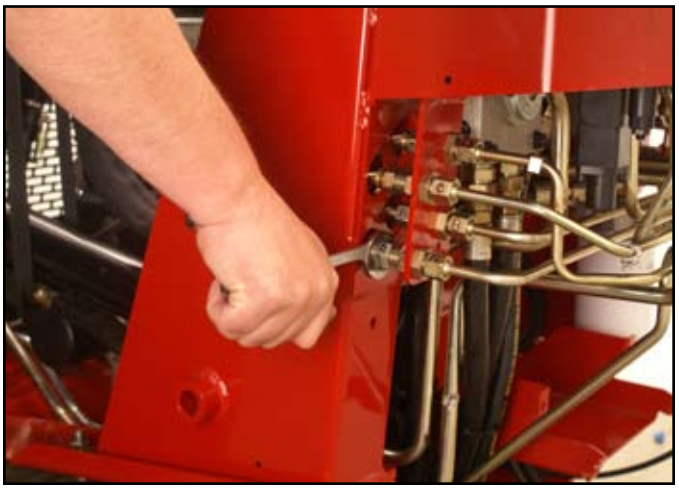

Fig 2248 PICT-1389

10. Remove the protective caps from the lift cylinder and auxiliary cylinder hydraulic lines on the right side of the lift arm assembly and from the bulkhead fittings on the right side of the tower.

11. Feed the lift cylinder hydraulic lines (E and F) through the right side lower tower opening (Fig. 2249).

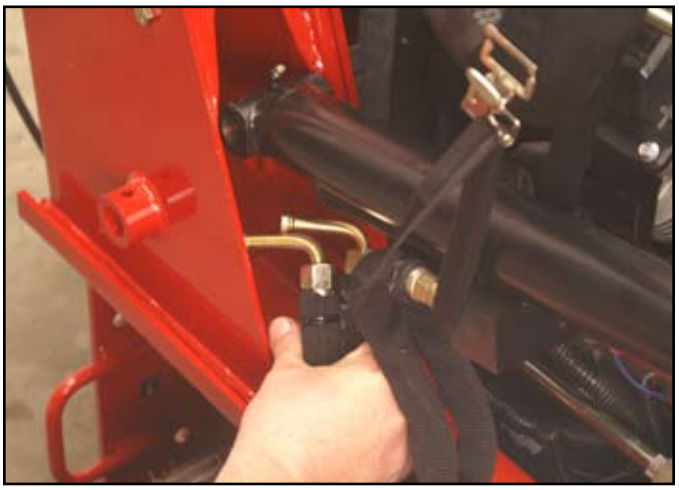

Fig 2249 PICT-1391

12. Connect the lift cylinder hydraulic lines (marked E and F) to the right side hydraulic bulkhead fittings marked E and F (Fig. 2250).

Note: Connect the hydraulic line and fitting marked F and then the line and fitting marked E.

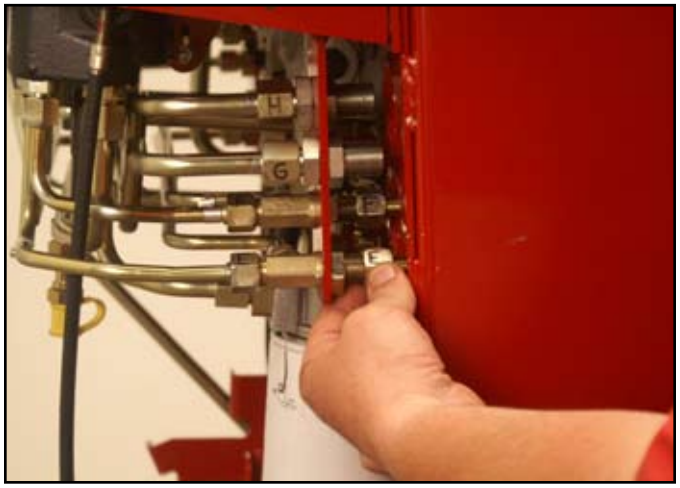

Fig 2250 PICT-1392

13. Lower the right lift cylinder. Feed the auxiliary cylinder hydraulic lines (G and H) through the right side lower tower opening above the lift cylinder (Fig. 2251).

Fig 2251 PICT-1394

14. Connect the auxiliary cylinder hydraulic lines (marked G and H) to the right side hydraulic bulkhead fittings marked G and H (Fig. 2252).

Note: Connect the hydraulic line and fitting marked H and then the line and fitting marked G.

Fig 2252 PICT-1396

15. Using a 13/16” wrench on the lift cylinder lines and a 15/16” wrench on the auxiliary cylinder lines, tighten all 4 hydraulic lines and fittings (marked E – H) on the right side hydraulic bulkhead (Fig. 2253).

Fig 2253 PICT-1397

16. With tension on the hoist straps, remove the safety straps securing the loader arm assembly to the loader arm stop brackets on the frame (Fig. 2254).

Fig 2254 PICT-1378

17. Remove both straps securing the lift cylinders to the loader arm assembly (Fig. 2255).

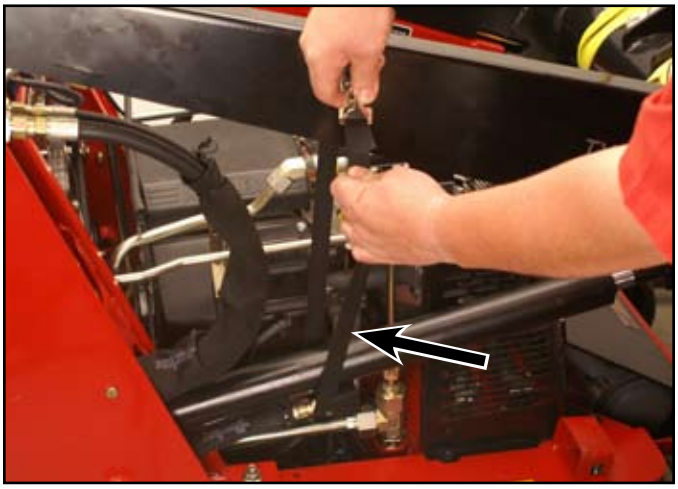

Fig 2255 PICT-1398a

18. Raise the loader arm off the tower assembly and remove the jack stand. Align the pivot pin holes on the loader arm assembly with the upper pivot pin holes in the tower assembly (Fig. 2256).

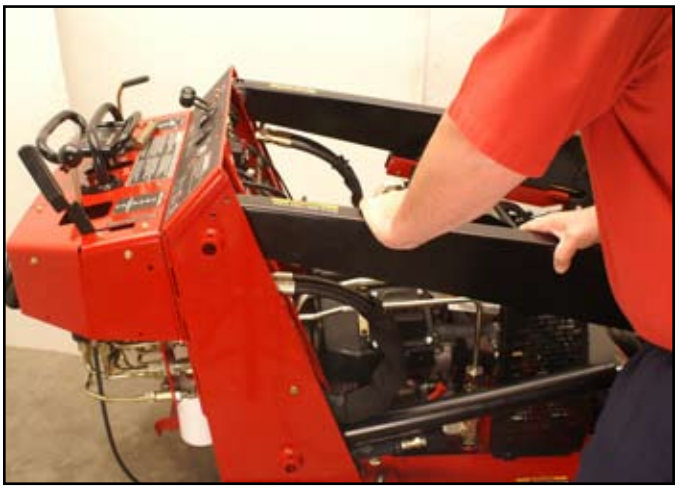

Fig 2256 PICT-1399a

19. Install the upper pivot pins on both sides of the tower assembly (Fig. 2257).

Fig 2257 PICT-1400a

20. Lower the lift arm assembly and line up the lift cylinder pivot pin holes with the lower pivot pin holes in the tower assembly. Install the lower pivot pins on both sides of the tower assembly to secure the lift cylinders (Fig. 2258).

Fig 2258 PICT-1401

21. Install all 4 sets of bolts and nuts to secure the pivot pins to the tower assembly. Torque to 19 ft-lbs. (25.7 Nm) (Fig. 2259).

Fig 2259 PICT-1402

22. Lower the hoist and remove the lift straps from the loader arm assembly.

Hood Assembly Installation

1. Position the hood assembly onto the tower so that the four holes on the hood hinge line up with the 4 holes on the inside of the tower. Install the hood prop rod into the hood assembly to assist in supporting the hood (Fig. 2260).

Fig 2260 PICT-1403

2. Install the hood assembly to the tower with the 4 bolts and nuts (Fig. 2261).

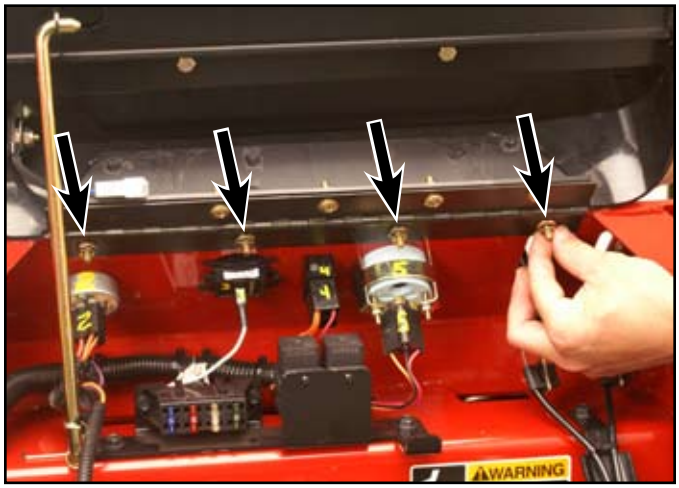

Fig 2261 PICT-1404

3. Using a Phillips screwdriver and a 7/16” socket, tighten all 4 bolts and nuts (Fig. 2262).

Fig 2262 PICT-1406

4. Install the fan connector harness wire with a nut and screw to the hood hinge (Fig. 2263).

Fig 2263 PICT-1408

5. Using a Phillips screwdriver and a 7/16” socket, tighten the bolt and nut securing the fan connector to the hinge (Fig. 2264).

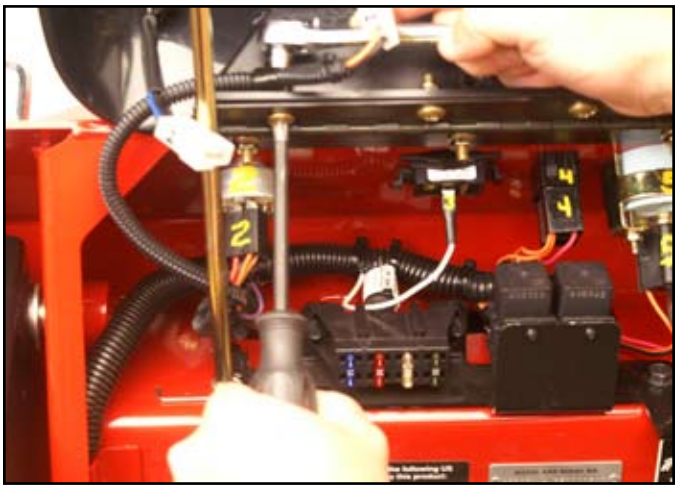

Fig 2264 PICT-1410

6. Plug the harness fan connector to the fan connector (both marked with number 1) (Fig. 2265).

Fig 2265 PICT-0963

7. Install the right and left engine guards (Fig. 2266)

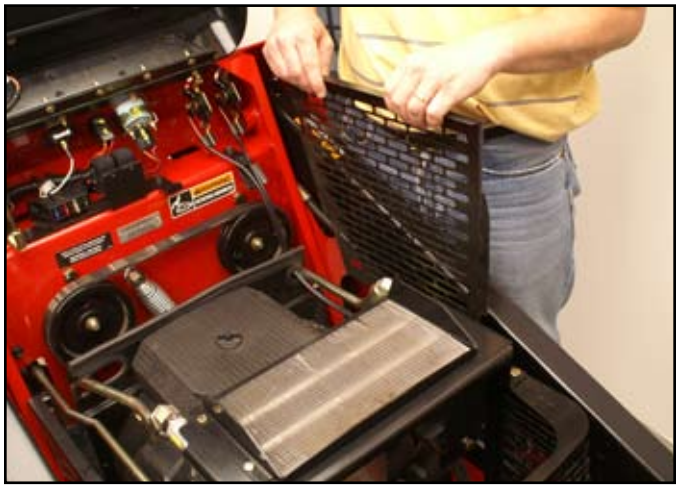

Fig 2266 PICT-1412

Final Checks and Rear Panel Installation

1. Check engine oil level.
2. Check hydraulic oil level. Refer to “Checking the Hydraulic Fluid” on page 3-4.
3. Place the battery into the battery tray. Using a 1/2” socket, connect the positive battery cable to the battery, then connect the negative battery cable (Fig 2267).

Fig 2267 PICT-0925

4. With the fuel tank level, install the fuel line onto the fuel tank (Fig. 2268).

Note: Do not install the fuel tank yet.

Fig 2268 PICT-0926

5. Start the machine (Fig. 2269).

Fig 2269 PICT-0927

6. Cycle the following: (Fig. 2270).
   A. Drive handle
   B. Loader valve
   C. Auxiliary valve

Fig 2270 PICT-0929

7. Shut off the engine. Check for leaks at all hydraulic connections. Recheck hydraulic oil level. Refer to “Checking the Hydraulic Fluid” on page 3-4 (Fig. 2271).

Fig 2271 PICT-0927

8. Remove the jack stands.

9. Using a 1/2” socket and wrench, install the battery clamp with two bolts and nuts (Fig. 2272).

Fig 2272 PICT-0557a

10. Slide the fuel tank into the rear of the frame (Fig. 2273).

Fig 2273 PICT-1041a

11. Connect the two wires (black and orange) to the fuel sending unit located on the top of the fuel tank (Fig. 2274).

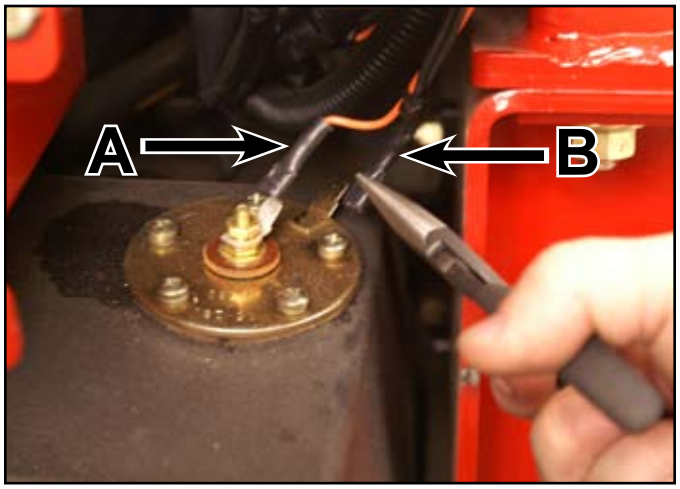

Fig 2274 PICT-0555

A. Center terminal orange wire

B. Outside terminal black wire

12. Using a 3/4” and 9/16” sockets, install the rear chassis cover with 8 sets of fasteners (Fig. 2275).

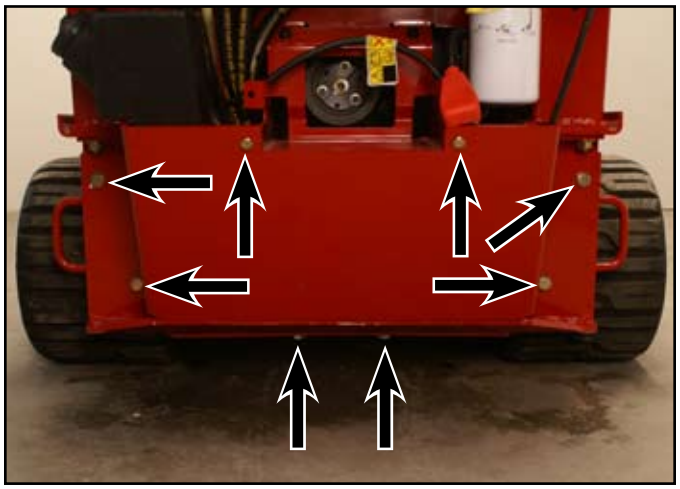

Fig 2275 PICT-1040

13. Using a 3/4” socket, install both rear counterweights (Fig. 2276).

Fig 2276 PICT-1038

14. Using a 3/8” socket, install the left and right rear cover support assemblies (Fig. 2277).

Fig 2277 PICT-1037

15. Install the rear access cover (Fig. 2278).

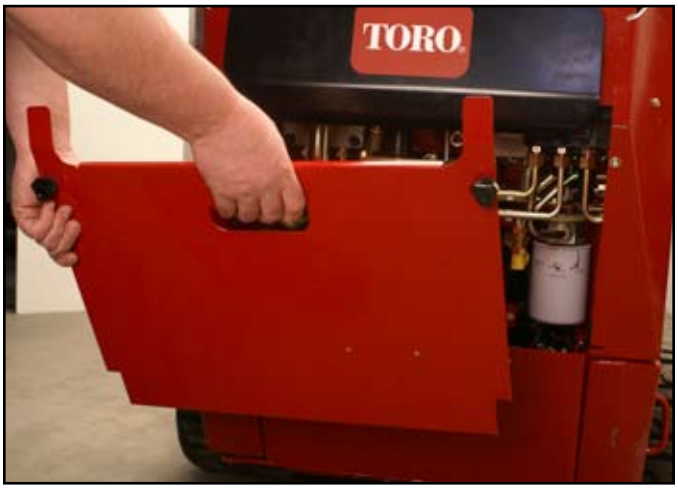

Fig 2278 PICT-1026

16. Lower and latch the hood.

17. Grease pivot points.

18. Change hydraulic filter after approximately 8 hours of operation.

TX420 & 425 240000300 & up Control Panel and Tower Assembly Replacement

Note: Protect all exposed sealing areas and open cavities from damage, foreign material and chemicals.

1. Raise the loader arm assembly and support the quick attach assembly with jack stands.

2. Open the rear access cover.

3. Using a 1/2” socket and wrench, remove the battery clamp (Fig. 2279).

Fig 2279 PICT-7629

4. Using a 1/2” socket, disconnect the negative and positive battery cable (Fig. 2280).

Fig 2280 PICT-7630

5. Remove the battery from the battery mounting tray (Fig. 2281).

Fig 2281 PICT-7632

6. Using a 9/16” socket, remove the nut and carriage bolt securing the fuel tank clamp to the rear chassis cover. Remove the fuel tank clamp (Fig. 2282).

Fig 2282 PICT-1932

7. Using a 3/4” socket, remove the bolts securing the rear counterweights to the rear chassis cover. Remove the left and right counterweights (Fig. 2283).

Fig 2283 PICT-1933

8. Using a 3/4” socket and wrench, remove the 6 nuts and bolts securing the rear chassis cover to the frame (Fig. 2284).

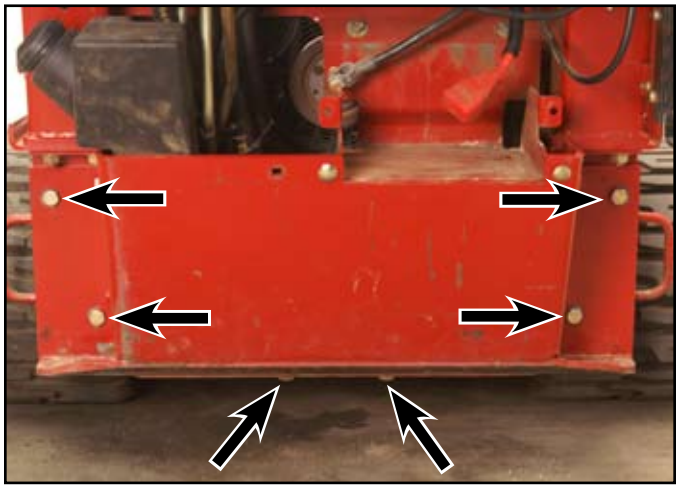

Fig 2284 PICT-1935

9. Using a 9/16” wrench, remove the two nuts, washers and carriage bolts securing the rear chassis cover to the battery tray (Fig. 2285).

Fig 2285 PICT-1936

10. Remove the rear chassis cover (Fig. 2286).

Fig 2286 PICT-1937

11. Remove the two wires on the fuel sending unit, located on the top of the fuel tank (Fig. 2287).

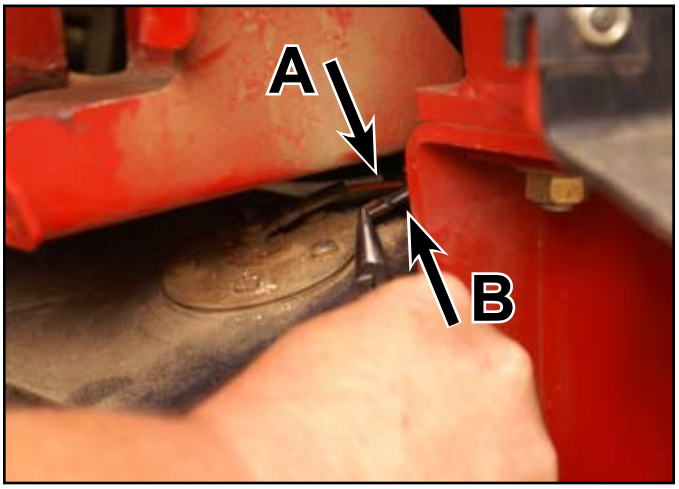

Fig 2287 PICT-1938

A. Center terminal – orange wire

B. Outside terminal – black wire

12. Pull the fuel tank out, move the fuel hose clamp off the fuel tank fitting and remove the fuel hose from the fuel tank (Fig. 2288).

Fig 2288 PICT-1939a

Control Panel Removal

1. Using a 3/8” socket, remove the 4 bolts that secure the top left control panel cover to the control panel (Fig. 2289).

Fig 2289 PICT-1940

2. Remove the top left control panel cover from the control panel (Fig. 2290).

Fig 2290 PICT-1941

3. Using a 3/8” socket, remove the 4 bolts that secure the top right control panel cover to the control panel (Fig. 2291).

Fig 2291 PICT-1942

4. Remove the top right control panel cover from the control panel (Fig. 2292).

Fig 2292 PICT-1943

5. Using a 9/16” socket and wrench, remove the bolt and nut holding the drive handle to the control panel (Fig. 2293).

Fig 2293 PICT-1005

6. Using a 1/2” socket, remove the 4 bolts holding the reference bar assembly to the control panel assembly (Fig. 2294).

Fig 2294 PICT-1945

7. Remove the drive handle and reference bar from the control panel assembly (Fig. 2295).

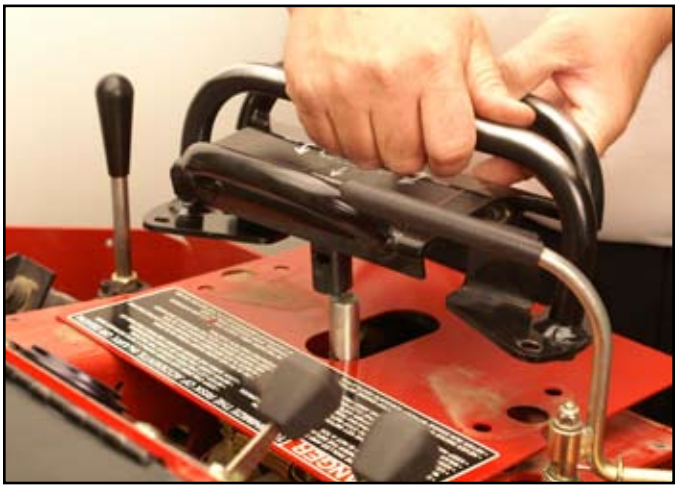

Fig 2295 PICT-1946

8. Remove the top center control panel cover from the control panel (Fig. 2296).

Fig 2296 PICT-1947

9. Mark the following components and the adjoining harness connectors 1 - 4 (Fig. 2297 and Fig. 2298).

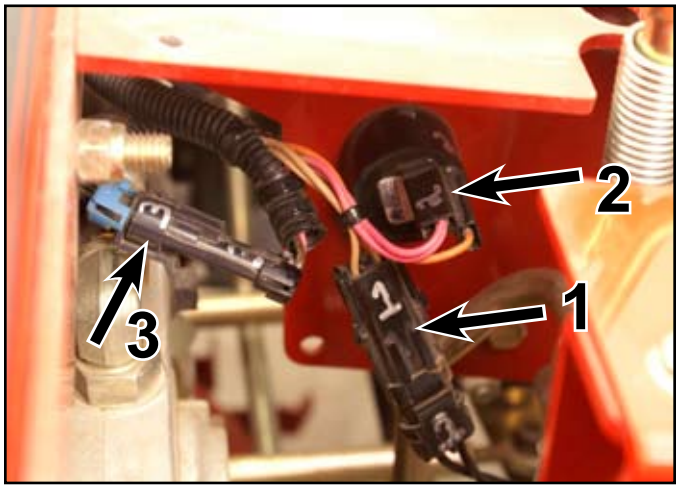

Fig 2297 PICT-1948

1. Safety switch on the auxiliary valve
2. Audio alarm for the hydraulic oil temperature
3. Neutral switch

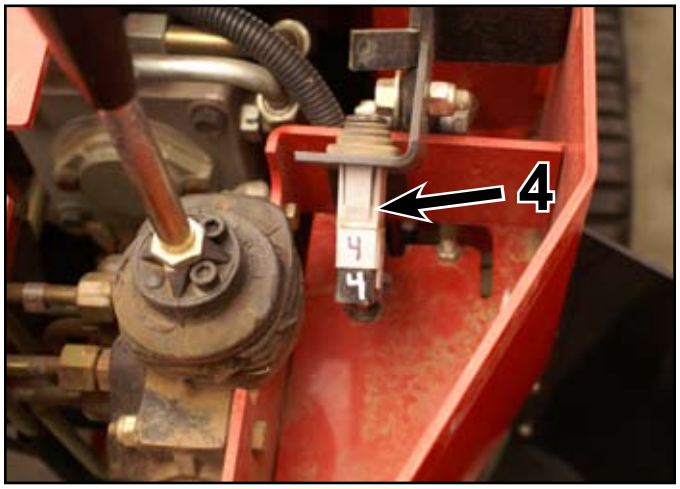

Fig 2298 PICT-1951

4. Brake switch

10. Disconnect the safety switch (marked with a 1) by lifting up on the tab and pulling the connectors apart (Fig. 2299).

Fig 2299 PICT-1952

11. Disconnect the audio alarm (marked with a 2) (Fig. 2300).

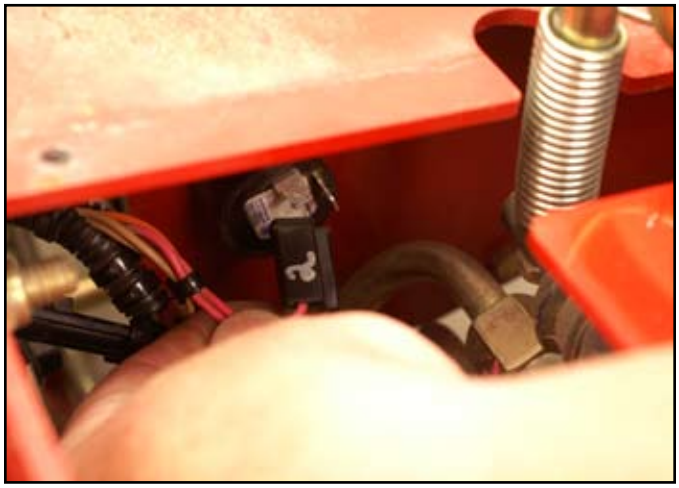

Fig 2300 PICT-1953

12. Disconnect the neutral switch (marked with a 3) by lifting up on the tab and pulling the connector apart (Fig. 2301).

Fig 2301 PICT-1954

13. Disconnect the brake switch (marked with a 4) by lifting up on the tab and pulling the connectors apart (Fig. 2302).

Fig 2302 PICT-1955

14. Using a 1/2” socket and wrench, remove the two bolts and nuts securing the rear access door to the right side of the tower assembly (Fig. 2303).

Fig 2303 PICT-1956

15. Remove the rear access door from the tower assembly (Fig. 2304).

Fig 2304 PICT-1957

16. Mark the right side lift cylinder and tilt cylinder hydraulic lines A, B, C, and D starting from the bottom fitting, moving upward as shown (Fig. 2305).

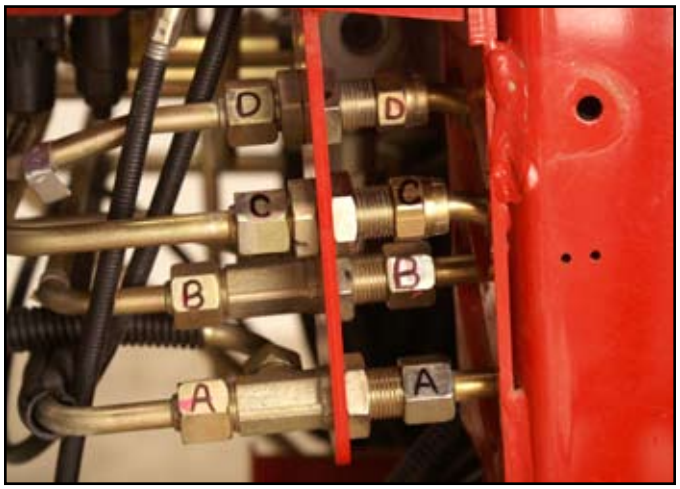

Fig 2305 PICT-1958

17. Place an oil pan under the right side hydraulic bulkhead.

18. Using a 13/16” wrench, remove the right side lift cylinder and tilt cylinder hydraulic lines and using a 1” wrench, loosen the bulkhead fitting nuts starting from the bottom fitting, moving upward as shown (Fig. 2306, Fig. 2307, Fig. 2308 and Fig. 2309).

Note: Cap each hydraulic line and fitting to ensure debris does not enter the system.

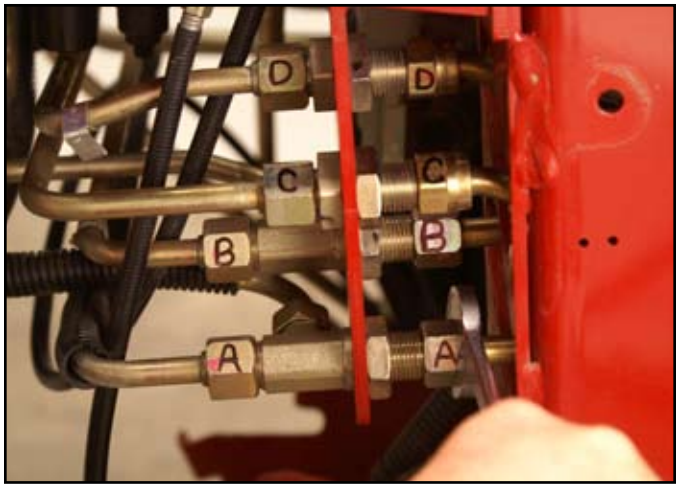

Fig 2306 PICT-1959

A. Outside lift cylinder

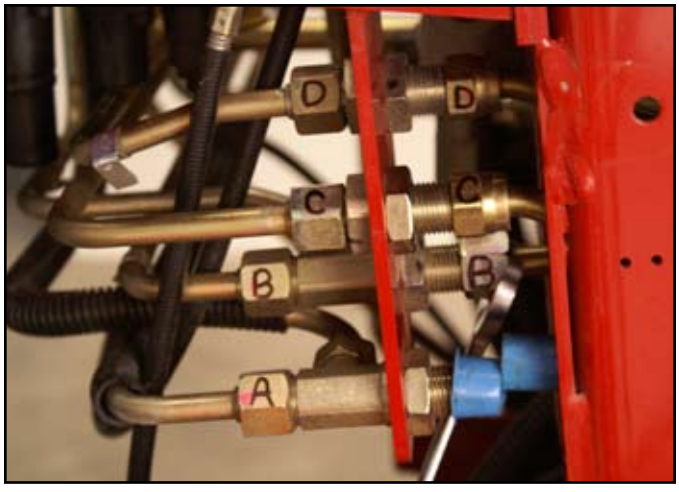

Fig 2307 PICT-1960

B. Inside lift cylinder

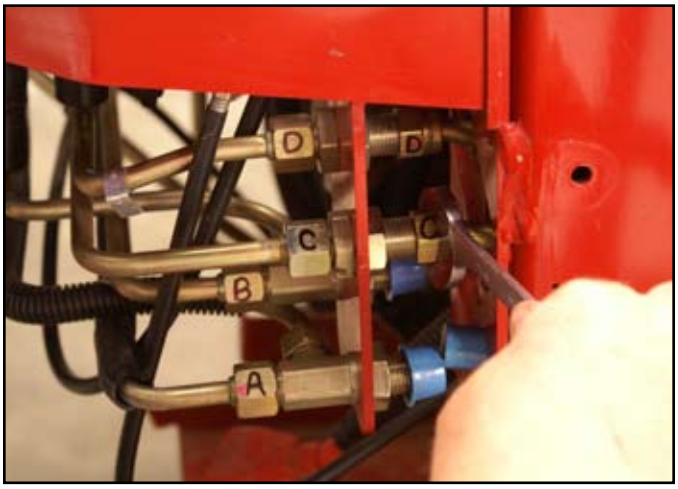

Fig 2308 PICT-1961

C. Outside tilt cylinder

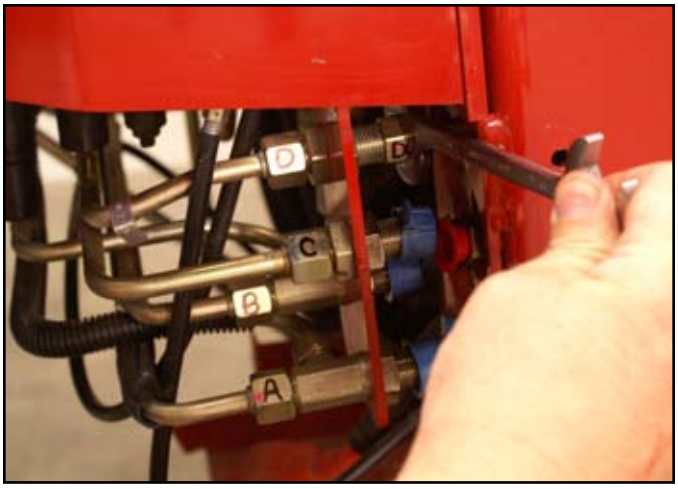

Fig 2309 PICT-1962

D. Inside tilt cylinder

19. Using a 9/16” wrench and a 7/16” socket, remove the bolt, washer and nut securing the ends of both brake cables to the brake handle (Fig. 2310).

Fig 2310 PICT-1963

20. Using a 1/2” (1.27cm) wrench, loosen both of the lower nuts on the right and left brake cables (Fig. 2311).

Fig 2311 PICT-1964

21. Slide the left and right brake cables out of the slots in the control panel assembly (Fig. 2312).

Fig 2312 PICT-1966

22. Cut the 2 cable ties that secure the brake cables (Fig. 2313).

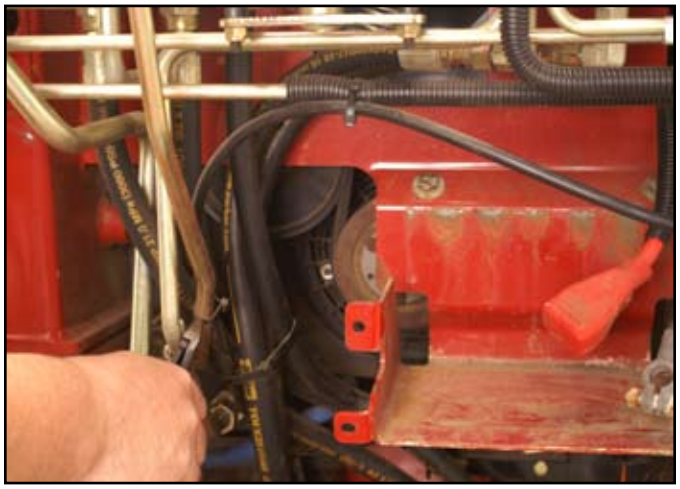

Fig 2313 PICT-1967

23. Pull the left and right brake cables down through the control panel and out the rear of the machine (Fig. 2314).

Fig 2314 PICT-1968

24. Mark the right side lift cylinder and auxiliary cylinder hydraulic lines E, F, G, and H starting from the bottom fitting, moving upward as shown (Fig. 2315).

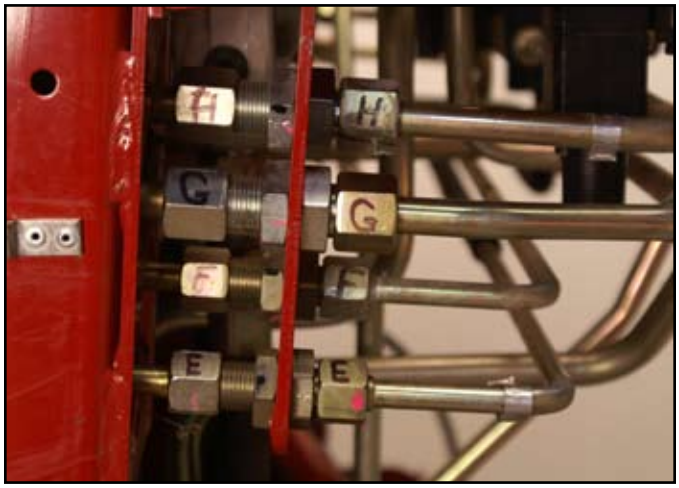

Fig 2315 PICT-1970

25. Place an oil pan under the left side hydraulic bulkhead.

26. Using a 13/16” and a 15/16” wrench, remove the left side lift cylinder and auxiliary hydraulic lines and using a 1” wrench and a 1-1/8” wrench, loosen the bulkhead fitting nuts starting from the bottom fitting, moving upward as shown (Fig. 2316, Fig. 2317, Fig. 2318 and Fig. 2319).

Note: Cap each hydraulic line and fitting to ensure debris does not enter the system.

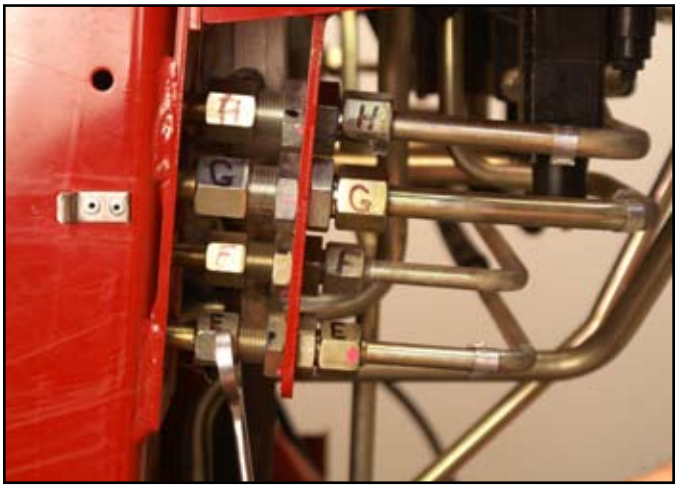

Fig 2316 PICT-1971

E. Outside lift cylinder line

Fig 2317 PICT-1972

F. Inside lift cylinder line

Fig 2318 PICT-1973

G. Outside auxiliary line

Fig 2319 PICT-1974

H. Inside auxiliary line

27. Label the hydraulic hard lines and engine bulkhead plate with the letters I, J, K and L as shown (Fig. 2320).

Fig 2320 PICT-1979

I. Gear Pump to the Auxiliary Valve
J. Gear Pump to the Two Spool Valve
K. Hydraulic Oil Cooler Return
L. Two Spool Valve return to the Hydraulic Oil Filter

28. Using a 15/16” wrench, disconnect the hydraulic line marked “J” (Gear Pump to the Two Spool Loader Valve) from the engine bulkhead plate (Fig. 2321).

Fig 2321 PICT-1980

29. Using a 1-1/8” wrench, disconnect the hydraulic line marked “I” (Gear Pump to the Auxiliary Valve) from the engine bulkhead plate (Fig. 2322).

Fig 2322 PICT-1981

30. Using a 15/16” wrench, disconnect the hydraulic line marked “L” (Two Spool Loader Valve return to the Hydraulic Oil Filter) from the engine bulkhead plate (Fig. 2323).

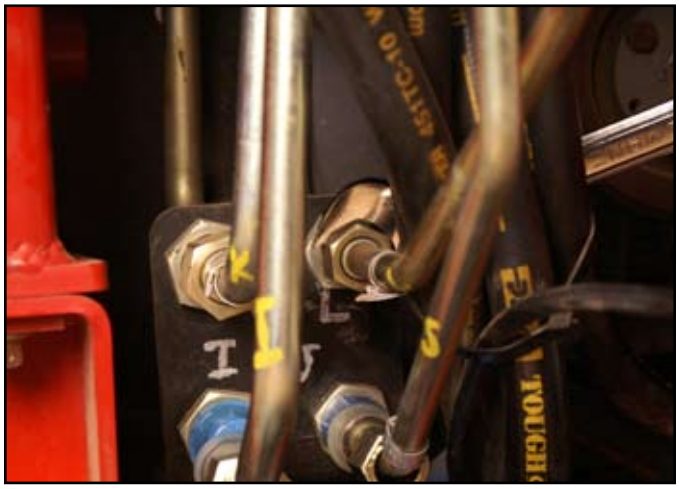

Fig 2323 PICT-1982

31. Using a 1-1/8” wrench, disconnect the hydraulic line marked “K” (Hydraulic Oil Cooler Return) from the engine bulkhead plate (Fig. 2324).

Note: Cap each hydraulic line and fitting to ensure debris does not enter the system.

Fig 2324 PICT-1983

32. Marked the hydraulic fitting and hose coming out of the left port on the left hydro pump with the letter “M” (Fig. 2325).

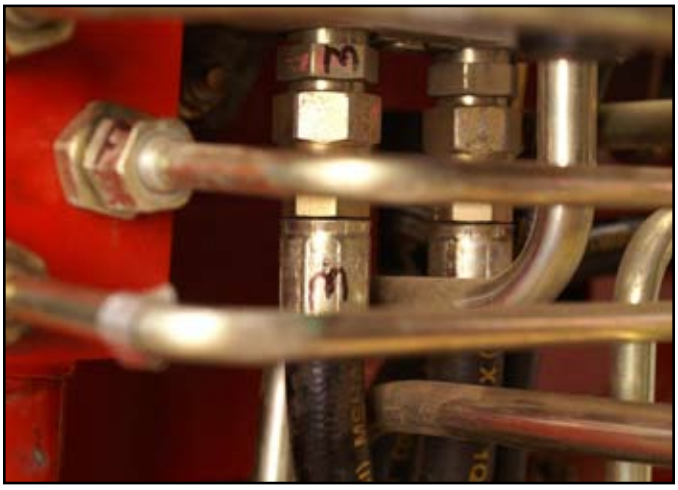

Fig 2325 PICT-1984

33. Using a 1-1/8” wrench, disconnect the hydraulic hose marked “M” from the hydro pump (Fig. 2326).

Note: Cap the hydraulic line and fitting to ensure debris does not enter the system.

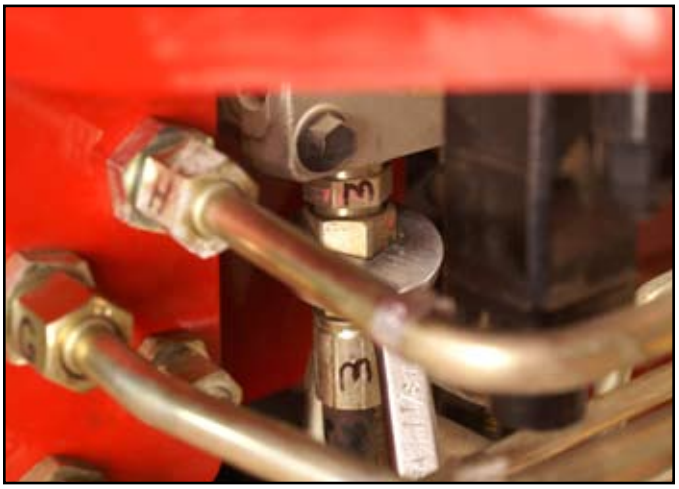

Fig 2326 PICT-1986

34. Using a 1-1/8” wrench, disconnect the hydraulic line marked with “I” at the end connected to the Two Spool Valve. Remove the hydraulic line from the machine (Fig. 2327).

Note: Cap each end of the hydraulic line and the fitting to ensure debris does not enter the system.

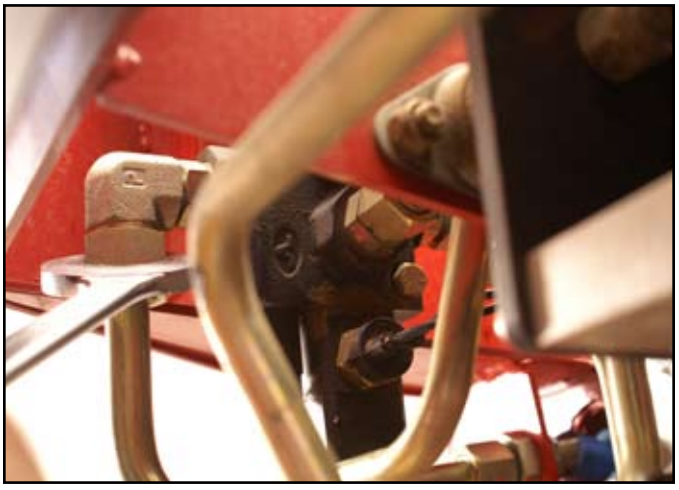

Fig 2327 PICT-1987

35. Using a 1/2” wrench and a 1/4” hex head wrench, remove the two bolts, spacers and nuts that retain the drive linkage (Fig. 2328).

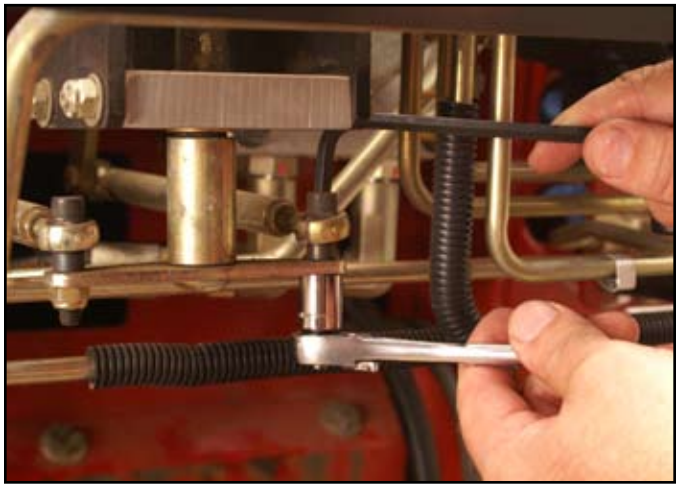

Fig 2328 PICT-1988

36. Release tension on the 2 torsion springs securing the reverse plate assembly (Fig. 2329).

Fig 2329 PICT-1064a

37. Remove the bolts, nuts, springs and reverse plate (Fig. 2330).

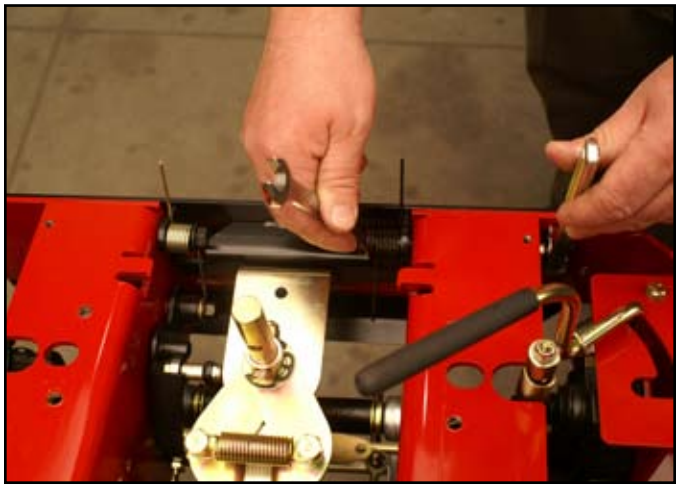

Fig 2330 PICT-1065

38. Set the replacement control panel onto a stable surface and secure in place (Fig. 2331).

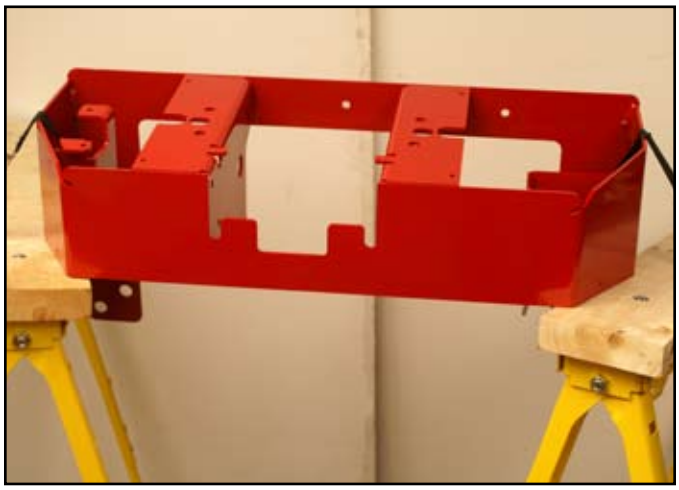

Fig 2331 PICT-1993

39. Mark the right hand bulkhead on the replacement control panel with A, B, C and D (Fig. 2332).

Fig 2332 PICT-1995

40. Mark the left hand bulkhead on the replacement control panel with E, F, G and H (Fig. 2333).

Fig 2333 PICT-1996

41. Using a 1/2” socket and wrench, remove the 2 bolts and nuts that secure the brake handle assembly to the control panel assembly (Fig. 2334).

Fig 2334 PICT-2001

42. Remove the brake handle assembly from the control panel (Fig. 2335).

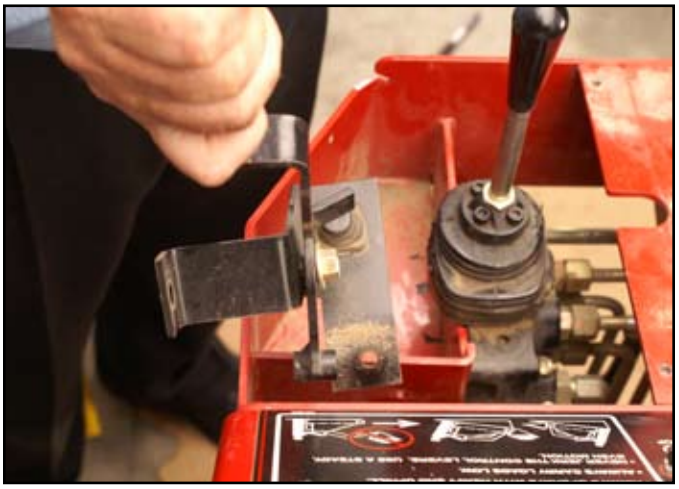

Fig 2335 PICT-2002

43. Using 1” and 1-1/8” wrenches, remove all 8 protective caps from the hydraulic bulkhead fittings. Remove all 8 bulkhead fitting nuts (Fig. 2336).

Fig 2336 PICT-1997

44. Using a 1/2” socket, remove the 3 bolts securing the loader valve to the control panel assembly (Fig. 2337).

Fig 2337 PICT-2003

45. Remove the loader valve and attached hydraulic lines from the control panel assembly (Fig. 2338).

Note: Recap all the hydraulic lines to prevent debris from entering the system.

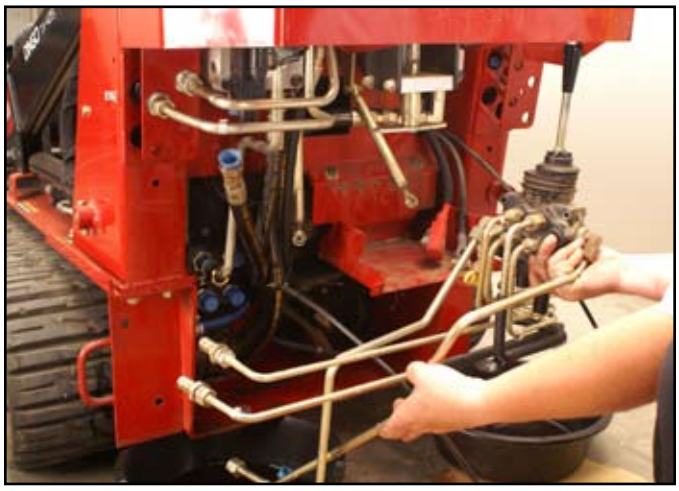

Fig 2338 PICT-2005

46. Using a 7/16” socket and wrench, remove the 2 bolts washers and nuts securing the auxiliary valve stop plate to the control panel assembly. Remove the stop plate (Fig. 2339).

Fig 2339 PICT-2006

47. Using a 1/2” socket and wrench, remove the 2 bolts and nuts securing the auxiliary valve to the control panel (Fig. 2340).

Fig 2340 PICT-2007

48. Remove the auxiliary valve and attached hydraulic lines from the control panel (Fig. 2341).

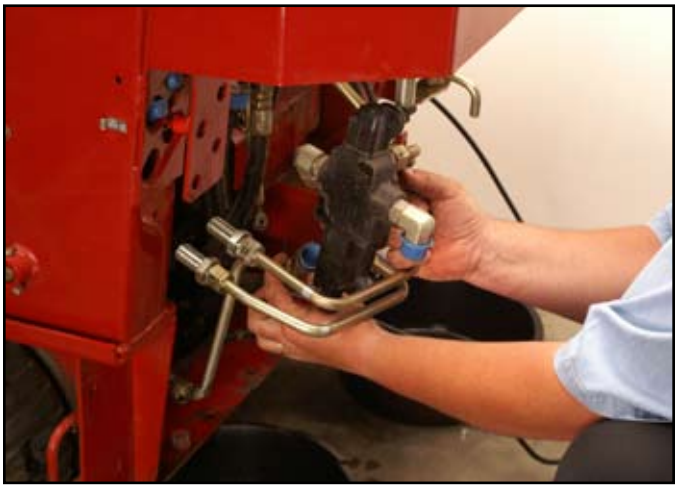

Fig 2341 PICT-2008

49. Install the auxiliary valve and attached hydraulic lines into the replacement control panel assembly so that the hydraulic lines marked G and H are installed in the bulkhead openings also marked G and H. Install and tighten the 2 bolts and nuts that secure the auxiliary valve to the control panel (Fig. 2342).

Fig 2342 PICT-2011

50. Using a 1/2” socket and wrench, remove the 4 bolts and nuts securing the 2 traction control bushings to the control panel (Fig. 2343).

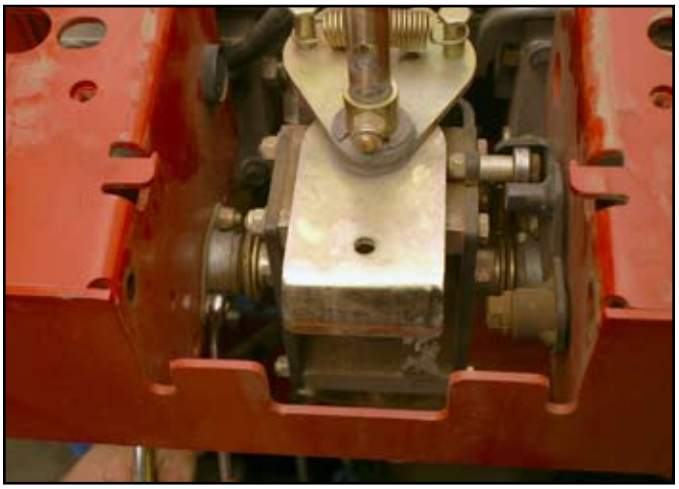

Fig 2343 PICT-2013a

51. Remove the traction control valve assembly from the control pane (Fig. 2344).

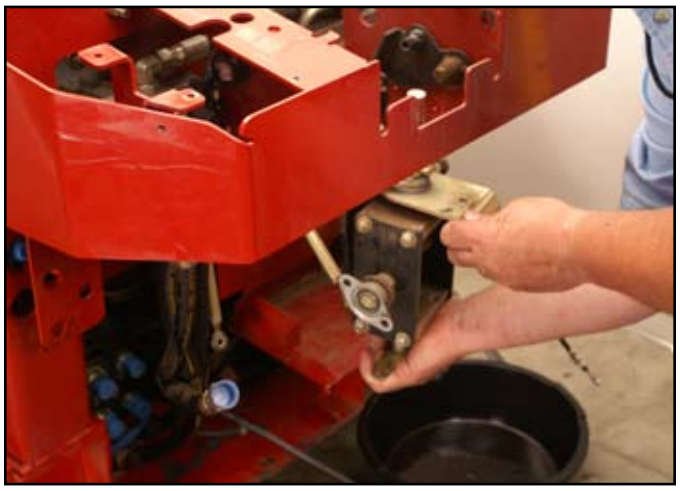

Fig 2344 PICT-2014

52. Position the traction control assembly into the replacement control panel (Fig. 2345).

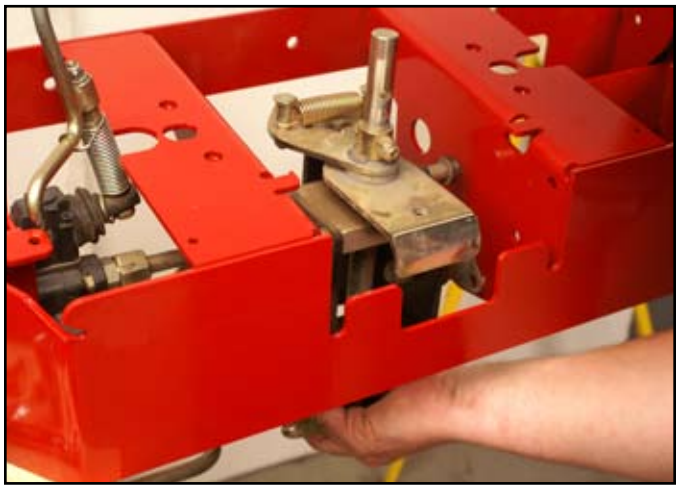

Fig 2345 PICT-2015

53. Install the traction control assembly to the replacement control panel by securing the bushings to the replacement control panel with 4 bolts and nuts. Tighten using a 1/2” socket and wrench (Fig. 2346).

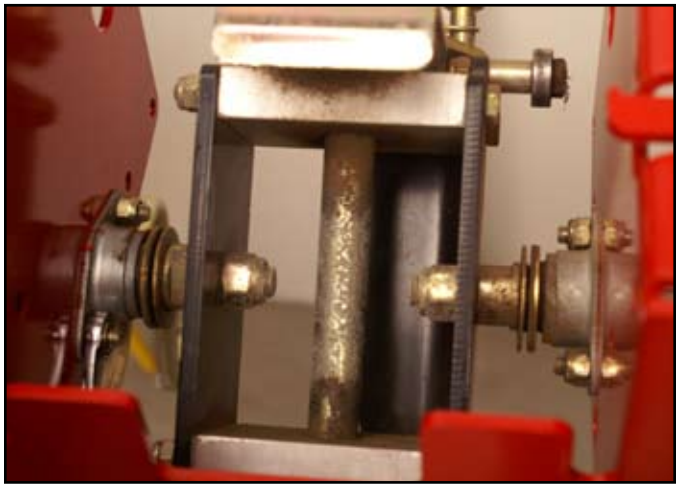

Fig 2346 PICT-2016

54. Using a 7/16” wrench, loosen the lower eye bolt that secures the traction control extension spring and spin bolt 90º so that the spring can be removed (Fig. 2347).

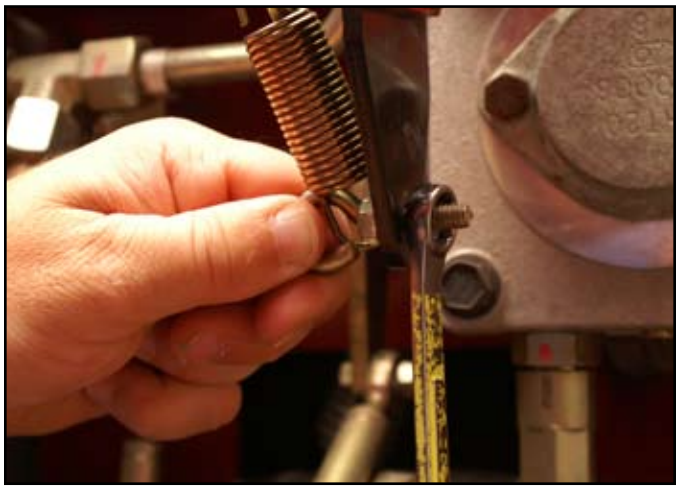

Fig 2347 PICT-2020

55. Remove the spring from the lower eye bolt (Fig. 2348).

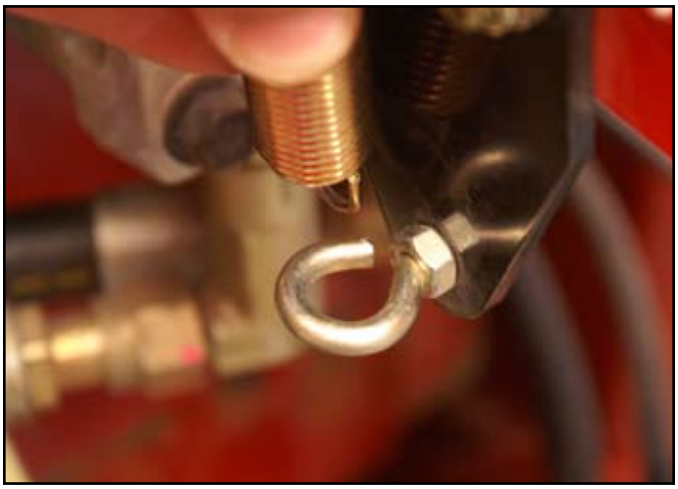

Fig 2348 PICT-2022

56. Using 9/16” socket and wrench, loosen the shoulder bolt, bushings, and nut securing the neutral centering lever to the control panel assembly (Fig. 2349).

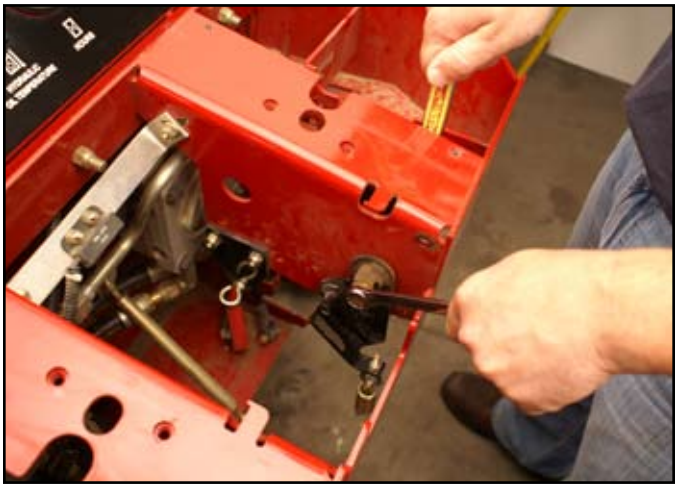

Fig 2349 PICT-2023

57. Remove the shoulder bolt, lever and nut from the control panel (Fig. 2350).

Fig 2350 PICT-2024

58. Position the neutral centering lever into the replacement control panel. Lever flange should be on top of the bearing on the traction control valve (Fig. 2351).

Fig 2351 PICT-2025

60. Using a 1/2” socket and wrench, remove the two bolts and nuts securing the lower traction control bracket and eye bolt to the control panel (Fig. 2352).

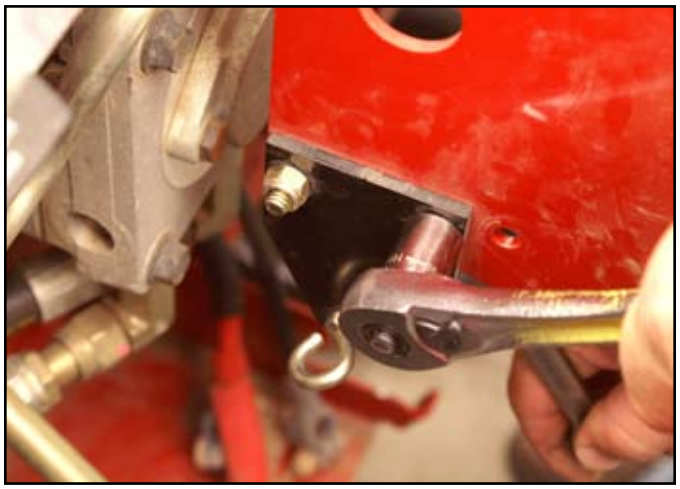

Fig 2352 PICT-2027

61. Remove the lower traction control bracket and eye bolt from the control panel (Fig. 2353).

Fig 2353 PICT-2028

59. Install the shoulder bolt and nut securing the neutral centering lever to the control panel. Tighten using a 9/16” socket and wrench (Fig. 2354).

Fig 2354 PICT-2026

62. Position the lower traction control bracket in the replacement control panel assembly. Hook the extension spring on to lower eye bolt (Fig. 2355).

Fig 2355 PICT-2029

63. Install the lower bracket onto the replacement control panel with the two bolts and nuts. Tighten the 2 bolts using a 1/2” socket and wrench (Fig. 2356).

Fig 2356 PICT-2030

64. Turn the lower eye bolt so that the opening is facing downward. Tighten the eye bolt into position using a 7/16” wrench (Fig. 2357).

Fig 2357 PICT-2033

65. Using a 7/16” socket, remove both sets of carriage bolts, washers and star washers holding the proximity switch plate to the control panel (Fig. 2358).

Fig 2358 PICT-2034

66. Remove the proximity switch assembly from the control panel (Fig. 2359).

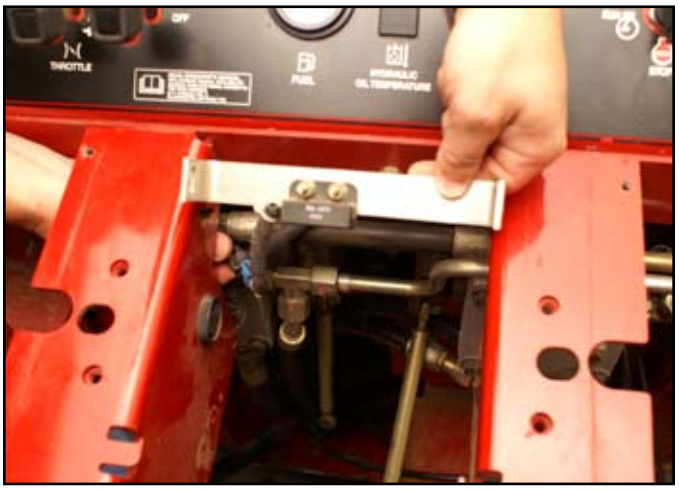

Fig 2359 PICT-2035

67. Position the proximity switch assembly into the replacement control panel. Loosely install 1 carriage bolt, 2 washers, 1 star washer and nut securing each side of the proximity switch assembly (Fig. 2360).

Fig 2360 PICT-2036

68. Adjust the proximity switch plate so that there is a 5/8” (1.58cm) distance from the switch plate nut to the end of the slot in the control panel (Fig. 2361).

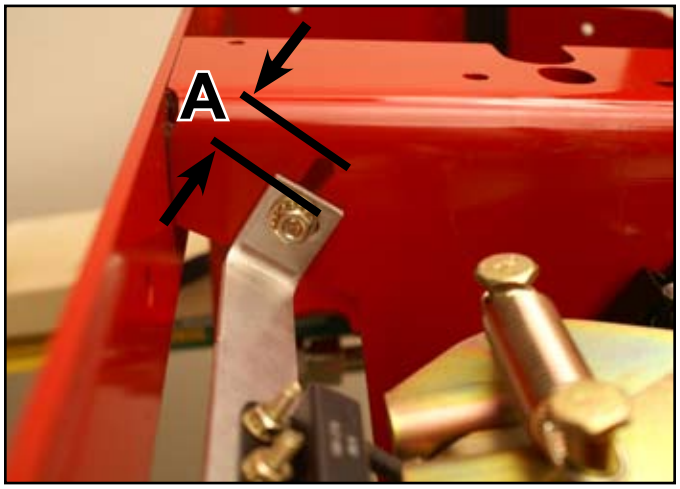

Fig 2361 PICT-1101

A. 5/8” (1.58cm)

69. Continue adjusting the switch plate so that there is a 1/16” (.16cm) clearance distance from the socket head screw and centered within the target (circle) on the switch (Fig. 2362).

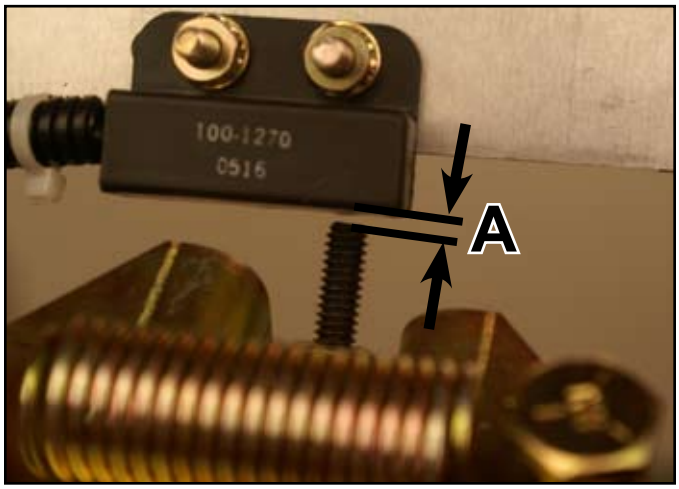

Fig 2362 PICT-1103

A. 1/16” (.16cm)

70. Tighten the 2 nuts using a 7/16” socket to secure the proximity switch plate assembly to the replacement control panel (Fig. 2363).

Fig 2363 PICT-1109a

71. Remove the hydraulic oil temperature audio alarm from the control panel (Fig. 2364).

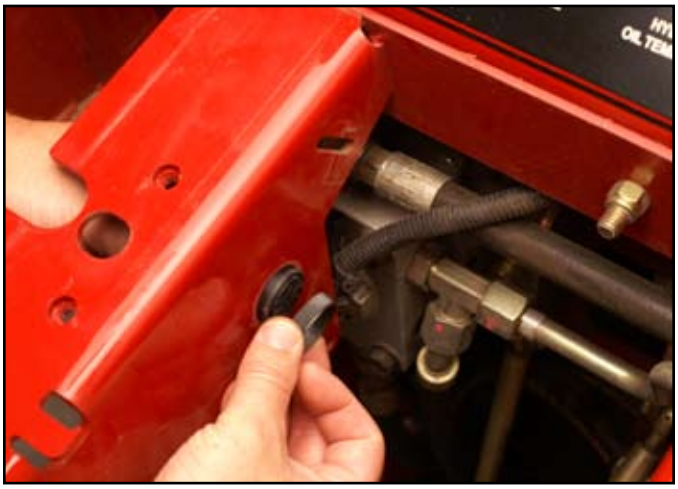

Fig 2364 PICT-2038

72. Install the hydraulic oil temperature audio alarm into the replacement control panel (Fig. 2365).

Note: The terminals on the audio alarm should be in the upward position.

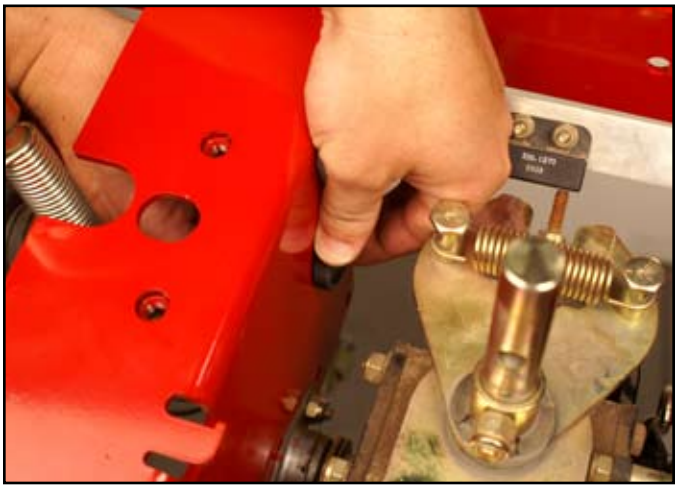

Fig 2365 PICT-2039

73. Position the loader valve and attached hydraulic lines into the replacement control panel (Fig. 2366).

Fig 2366 PICT-2047a

74. Using a 1/2” socket and wrench, install the 3 bolts and nuts to secure the loader valve to the replacement control panel (Fig. 2367).

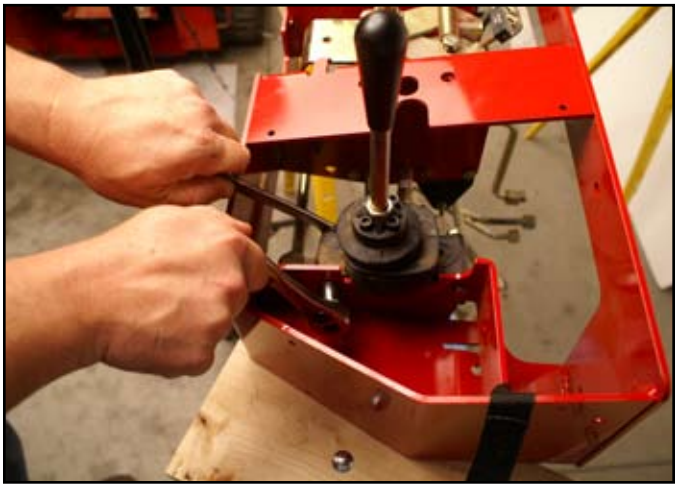

Fig 2367 PICT-2049

75. Insert the hydraulic fittings into the bulkhead, matching the letters on the fitting with the letter on the bulkhead opening. Install all 8 bulkhead fitting nuts and tighten using a 1” wrench and a 1-1/8” wrench (Fig. 2368).

Fig 2368 PICT-2050

76. Position the brake handle assembly into the replacement control panel and install the 2 bolts and nuts. Tighten using a 1/2” socket and wrench (Fig. 2369).

Fig 2369 PICT-2052

77. Attach a hoist and chains to the control panel assembly (Fig. 2370).

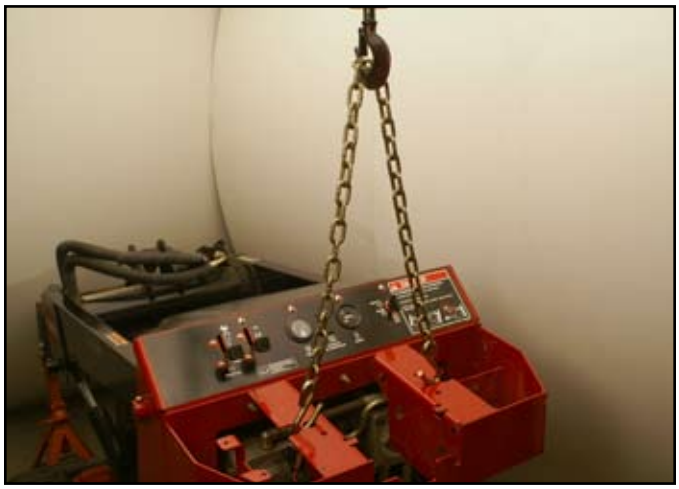

Fig 2370 PICT-2041a

78. Open the hood and prop using hood prop rod.

79. Using a 1/2” socket and wrench, remove the 5 nuts and bolts securing the control panel to the tower assembly (Fig. 2371).

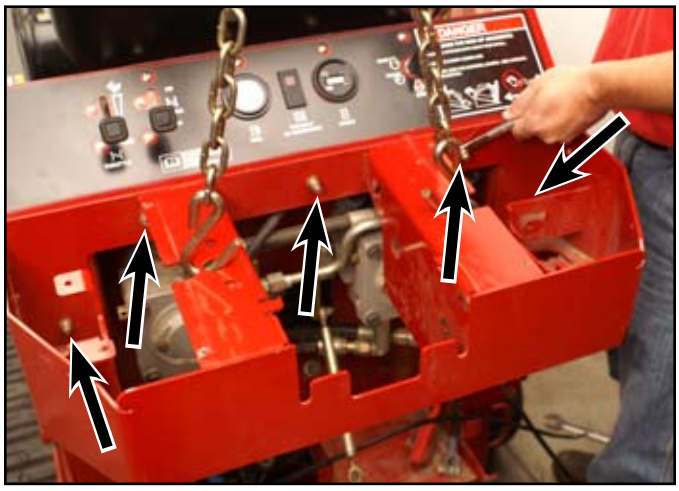

Fig 2371 PICT-2043

80. Remove the control panel from the tower assembly (Fig. 2372).

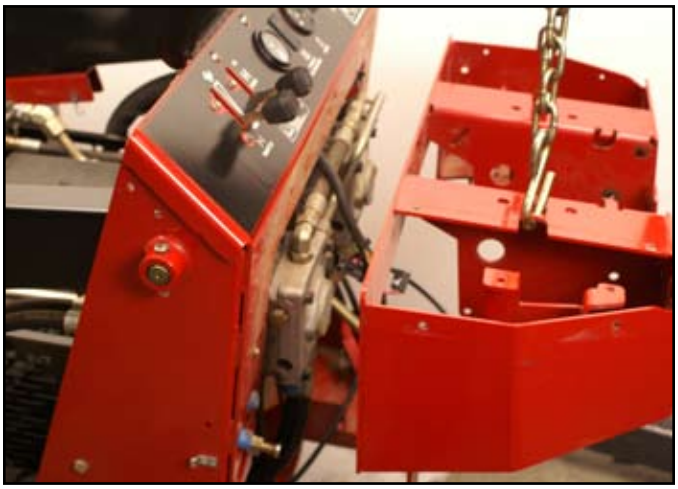

Fig 2372 PICT-2046

Engine Hood Assembly Removal

1. Raise the hood to the full upright position.

2. Mark the fan connector and mating harness connector with a “5”. Unplug the fan connector from the wire harness (Fig. 2373).

Fig 2373 PICT-2056

3. Using a 7/16” socket and Philips screwdriver, remove the nut and screw holding the harness wire clamp to the hood hinge (Fig. 2374).

Fig 2374 PICT-2057

4. Using a 7/16” socket and Philips screwdriver, remove the 4 nuts and screws that attach the hood hinge to the tower assembly (Fig. 2375).

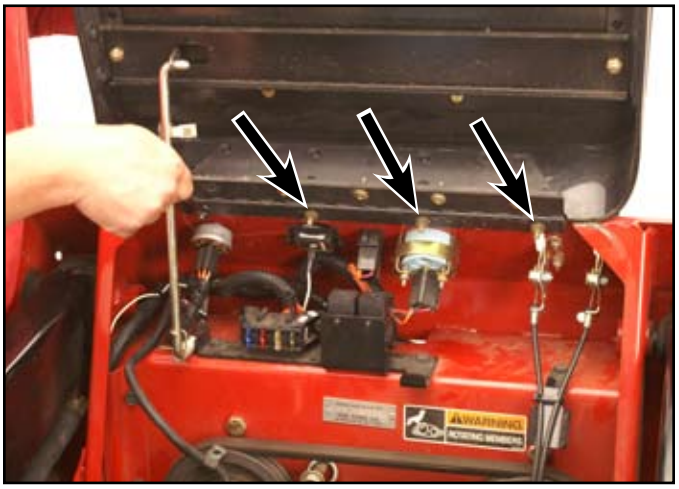

Fig 2375 PICT-2058

5. Remove the support rod from the hood bracket and remove the hood from the tower assembly (Fig. 2376).

Fig 2376 PICT-2059

Gauge/Electrical Removal

1. Mark the following components and adjoining harness connectors 6-9 (Fig. 2377, Fig. 2378, Fig. 2379 and Fig. 2380).

Fig 2377 PICT-2060

6. Key Switch Assembly (switch, harness connecter and violet wire)

Fig 2378 PICT-2063

7. Hour Meter

Fig 2379 PICT-2066

8. Hydraulic Oil Temperature Light

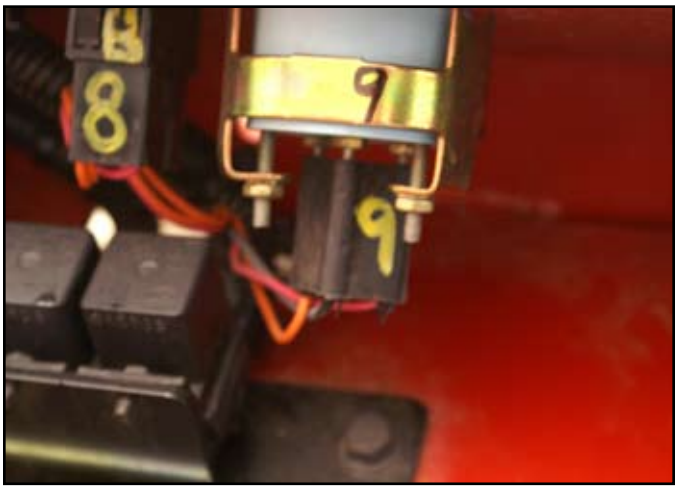

Fig 2380 PICT-2067

9. Fuel Gauge

2. Disconnect the harness connector from the key switch assembly. Disconnect the violet wire from the key switch assembly (Fig. 2381).

Fig 2381 PICT-2068

3. Disconnect the white wire from the hour meter (Fig. 2382).

Fig 2382 PICT-2069

4. Disconnect the wire harness connector from the hydraulic oil temperature light by squeezing the sides of the connector while pulling down (Fig. 2383).

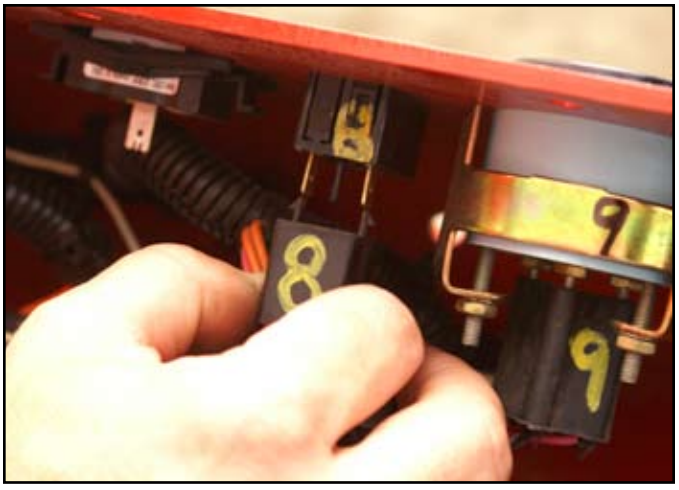

Fig 2383 PICT-2070

5. Disconnect the wire harness connector from the fuel gauge (Fig. 2384).

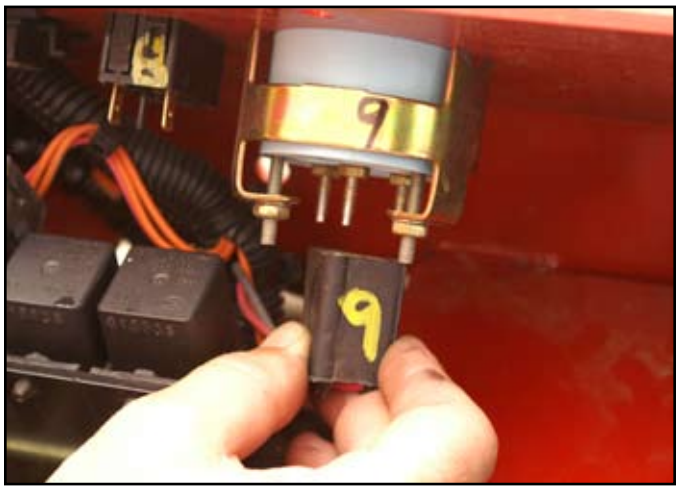

Fig 2384 PICT-2071

6. Remove the knobs from the throttle and choke cable handles (Fig. 2385).

Fig 2385 PICT-2072

Using a 3/8” socket and 5/16” wrench, remove the bolts and nuts on the throttle and choke handle assemblies (Fig. 2386).

Fig 2386 PICT-2073

8. Pull the throttle and choke handle assemblies inward toward the engine. Mark the choke handle assembly with the letter “C” (Fig. 2387).

Fig 2387 PICT-2074

9. Using a 1/2” socket, remove the screw holding the cable guide to the tower (Fig. 2388).

Fig 2388 PICT-2075

10. Using a 1/2” socket, remove the 2 screws holding the fuse/relay bracket assembly to the tower (Fig. 2389).

Fig 2389 PICT-2076

11. Using a 1/2” socket, remove the 2 screws securing the wiring shield to the tower and remove the wiring shield (Fig. 2390).

Fig 2390 PICT-2077

12. Pull the wire harness through the tower assembly into the engine area. Lay the harness across the top of the engine (Fig. 2391).

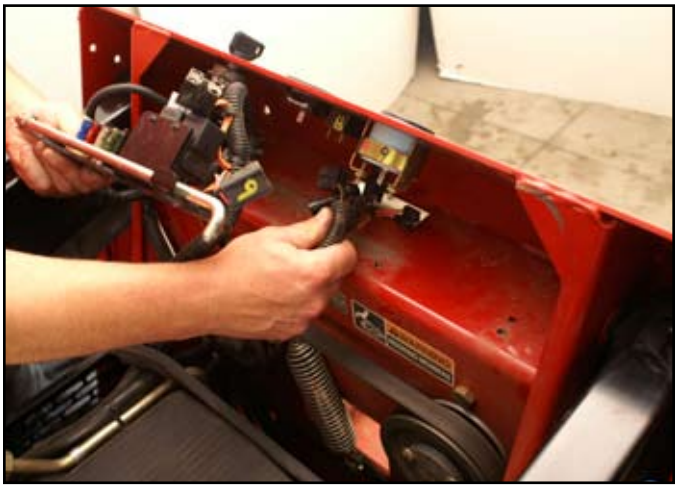

Fig 2391 PICT-2079

Belt Removal

1. Using a spring removal tool (Toro P/N 92-5771), connect the tool to the spring end located on the stud bolted to the tower assembly. Pull up on the spring end to remove the spring from the bolt stud (Fig. 2392).

Fig 2392 PICT-2080

2. Remove the belt from the pulleys (Fig. 2393).

Fig 2393 PICT-2081

3. Use the idler spring, or a strap, to hold idler assembly upward toward hydro pump pulleys (Fig. 2394).

Fig 2394 PICT-2082

Loader Arm Removal

1. Secure the loader arm assembly with properly rated straps and lifting hoist (Fig. 2395).

Fig 2395 PICT-2084a

2. Using a 1/2” socket and wrench, remove the bolt and nut on the left and right lift cylinder pivot pins (Fig. 2396).

Fig 2396 PICT-2085a

3. Remove the left and right lift cylinder pivot pins (Fig. 2397).

Fig 2397 PICT-1164a

4. Using a strap, secure both lift cylinders to the loader arm; this will prevent the cylinders from being damaged during loader arm assembly removal (Fig. 2398).

Fig 2398 PICT-2087a

5. Using a 1/2” socket and wrench, remove the bolt and nut on the left and right loader arm pivot pins (Fig. 2399).

Fig 2399 PICT-2088

6. Remove the left and right loader arm pivot pins (Fig. 2400).

Fig 2400 PICT-1168

7. Remove the loader arm assembly from the tower assembly (Fig. 2401).

Note: To prevent damage to the hydraulic hoses, make sure they don’t get caught in the openings of the tower assembly.

Note: Place protective caps on the hydraulic lines to prevent contamination.

Fig 2401 PICT-2089a

Tower Replacement

1. Locate the 4 side panel latch assemblies. There are 2 on each side panel (Fig. 2402).

Fig 2402 PICT-2090

2. Turn the side panel latch assemblies 90º so that they line up with the slot in the side panel. The right and left side panels each have 2 latch assemblies per panel (Fig. 2403).

Fig 2403 PICT-2091

3. Remove the left and right side panels (Fig. 2404).

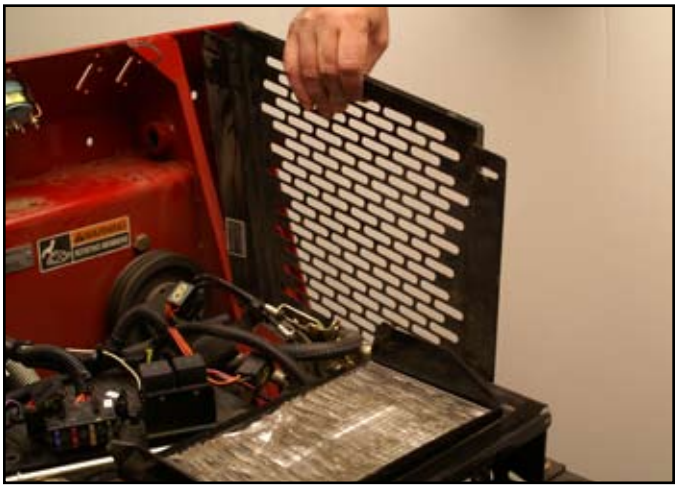

Fig 2404 PICT-2092

4. Using a 7/16” socket, remove the 3 bolts and washers securing the pulley hub to the pulley (Fig. 2405).

Fig 2405 PICT-2093

5. Insert the 3 bolts into the adjacent three threaded holes on the pulley hub. Using a 7/16” socket, begin tightening each bolt equally until the hub separates from the pulley (Fig. 2406).

Fig 2406 DSC-0827

Note: Remove the bushing and pulley, being careful not to lose the key that goes onto the pump shaft (Fig. 2407).

Fig 2407 PICT-2094

6. Repeat the pulley and hub removal procedure on the second pulley.

7. Mark the following hydraulic hoses with the letters N, O, P, Q, R (Fig. 2408, Fig. 2409, Fig. 2410 and Fig. 2411).

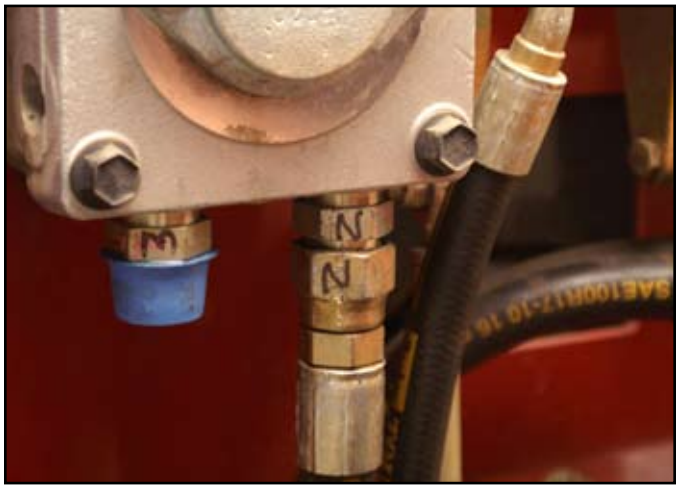

Fig 2408 PICT-2096

N. Hydrostatic pump to the top fitting of the right hand wheel motor

Fig 2409 PICT-2098

O. Hydrostatic pump to the bottom fitting of the left hand wheel motor

P. Hydrostatic pump to the top fitting of the left hand wheel motor

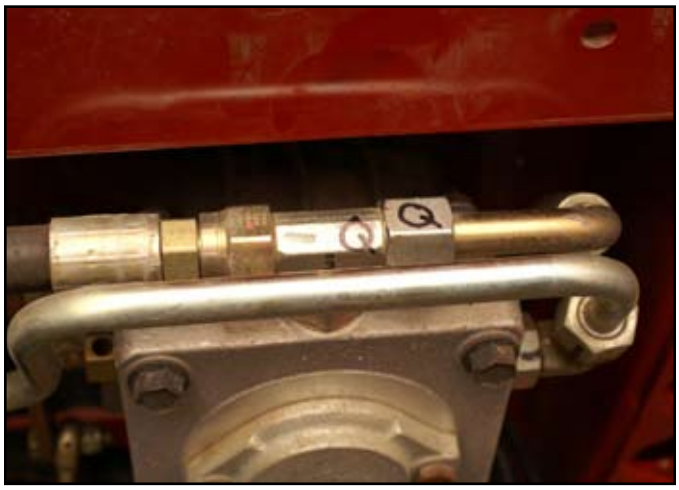

Fig 2410 PICT-2099

Q. Hydrostatic pump inlet line

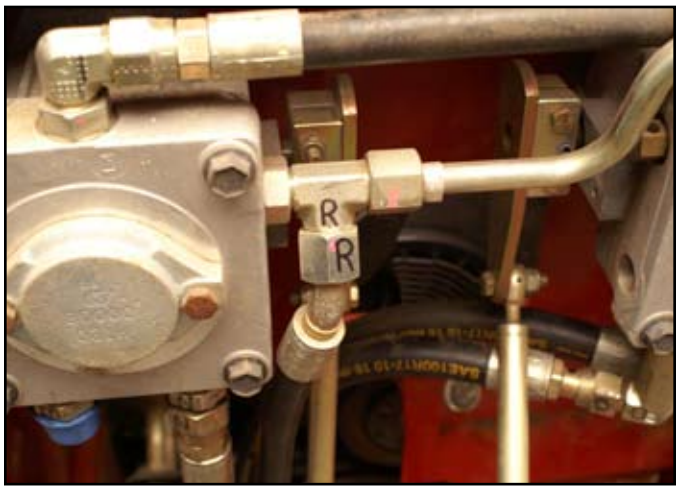

Fig 2411 PICT-2100

R. Hydrostatic pump case drain return to the hydraulic reservoir

8. Using a 1-1/8” wrench, disconnect the hydraulic line marked “N” from the left hand hydro-static pump (Fig. 2412).

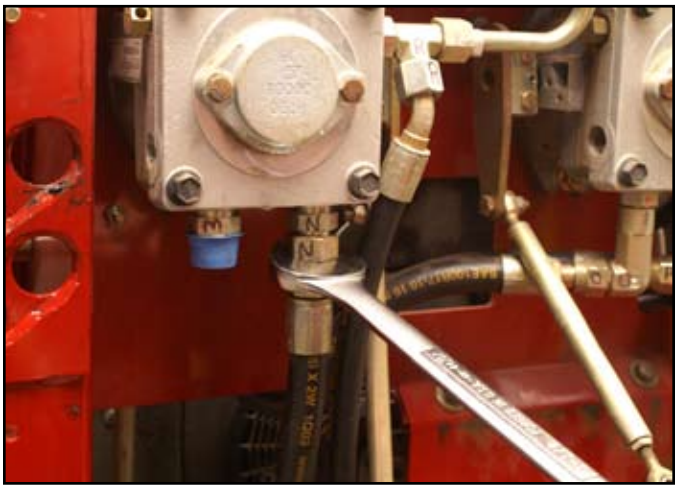

Fig 2412 PICT-2101

9. Using a 15/16” wrench, disconnect the hydraulic line marked “O” from the left hand hydrostatic pump (Fig. 2413).

Fig 2413 PICT-2102a

10. Using a 15/16” wrench, disconnect the hydraulic line marked “P” from the left hand hydrostatic pump (Fig. 2414).

Fig 2414 PICT-2103

11. Using a 15/16” wrench, disconnect the hydraulic line marked “Q” from the left hand hydro-static pump (Fig. 2415).

Fig 2415 PICT-2105

12. Using a 15/16” wrench, disconnect the hydraulic line marked “R” from the left hand hydro-static pump (Fig. 2416).

Note: Cap all hydraulic fittings and hoses so that debris does not enter the system.

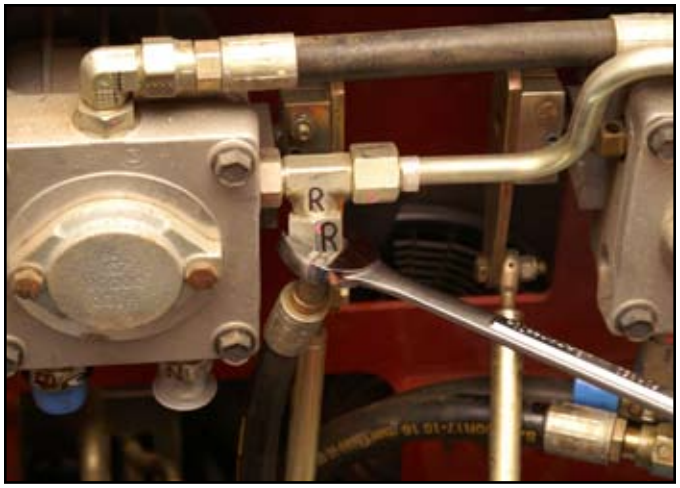

Fig 2416 PICT-2106

13. Set the replacement tower up and secure it in place (Fig. 2417).

Fig 2417 PICT-2109

14. Using a 3/4” socket and wrench, remove the 4 bolts and nuts securing the hydrostatic pumps to the tower assembly (Fig. 2418).

Fig 2418 PICT-2110

15. Remove the hydrostatic pump assembly from the tower assembly (Fig. 2419).

Fig 2419 PICT-2114

16. Remove the idler tension spring (Fig. 2420).

Fig 2420 PICT-2115

17. Using a 1/2” socket and wrench, remove the idler arm assembly (Fig. 2421).

Fig 2421 PICT-2116

18. Using a 1/2” socket and wrench, install the idler arm assembly into the replacement tower (Fig. 2422).

Note: There is a washer on the bolt head side of the idler arm.

Fig 2422 PICT-2118a

19. Using a 1/2” socket and a 9/16” wrench, remove the idler spring stud (Fig. 2423).

Fig 2423 PICT-2119

20. Using a 1/2” socket and a 9/16” wrench, install the idler spring stud into the replace-ment tower (Fig. 2424).

Fig 2424 PICT-2121a

21. Install the idler tension spring onto the idler arm assembly and the idler spring stud (Fig. 2425).

Fig 2425 PICT-2122

22. Remove the model/serial plate from the tower assembly by drilling out the 2 rivets (Fig. 2426).

Fig 2426 PICT-2125

23. Install the model/serial plate into the replacement tower using 2 rivets (1/8” x 7/16”) (.31cm x 1.11cm) (Fig. 2427).

Fig 2427 PICT-2127a

24. Drill out the 2 rivets securing the rear door latch to the tower assembly (Fig. 2428).

Fig 2428 PICT-2130

25. Install the rear door latch onto the replacement tower using 2 rivets (1/8” x 7/16”) (.31cm x 1.11cm) (Fig. 2429).

Fig 2429 PICT-2131

26. Using a 9/16” socket and wrench, remove the 2 bolts, spacer tubes and nuts from the left and right sides of the tower assembly (Fig. 2430).

Fig 2430 PICT-2132

27. Using a 9/16” socket and wrench, install the spacer, bolt and nut into both the left hand and right hand sides of the replacement tower (Fig. 2431).

Fig 2431 PICT-2133

28. Using a 15/16” wrench, remove the key switch assembly from the tower (Fig. 2432).

Fig 2432 PICT-2134

29. Install the key switch assembly into the replacement tower and tighten using a 15/16” wrench (Fig. 2433).

Fig 2433 PICT-2135

30. Remove the hour meter by pushing up on the tabs located on the back and then pull the gauge out of the front of the tower (Fig. 2434).

Fig 2434 PICT-2136

31. Install the hour meter into the replacement tower by placing the bracket on the inside of the tower. Then slide the hour meter gauge through from the front of the tower. Push the gauge into the bracket until it snaps into place (Fig. 2435).

Fig 2435 PICT-2137

32. Remove the hydraulic oil temperature warning light from the tower by pressing the two tabs in and pulling the light out of the front of the tower (Fig. 2436).

Fig 2436 PICT-2138

33. Install the hydraulic oil temperature warning light into the replacement tower by pushing it in from the front side through to the back (Fig. 2437).

Fig 2437 PICT-2139

34. Remove the fuel gauge from the tower by using an 11/32” wrench to remove the 2 nuts and star washers securing the fuel gauge to the tower (Fig. 2438).

Fig 2438 PICT-2140

35. Install the fuel gauge and mating bracket onto the replacement tower. Secure the fuel gauge and bracket into place with the 2 star washers and nuts (Fig. 2439).

Fig 2439 PICT-2141

36. Loosely install the 2 lower bolts and nuts that will secure the hydrostatic pumps to the replacement tower (Fig. 2440).

Note: Bolts are installed on the engine side of the tower; nuts are installed on the pump side of the tower.

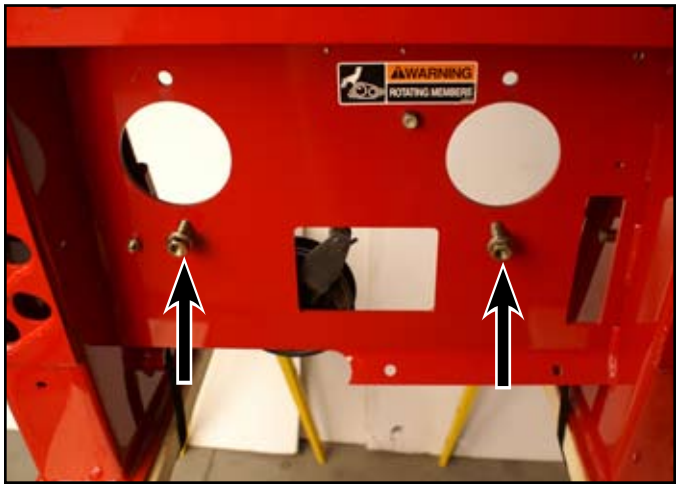

Fig 2440 PICT-2152

37. Position the hydrostatic pump assembly so that it is resting on the two lower bolts (Fig. 2441).

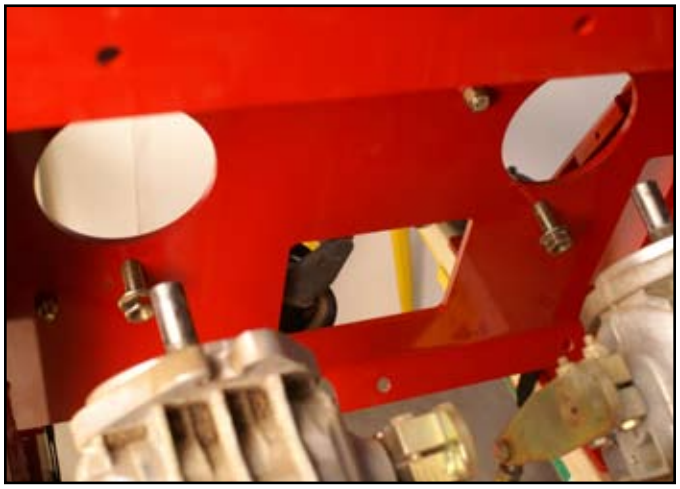

Fig 2441 PICT-2153

38. Secure the hydrostatic pumps assembly to the replacement tower by installing the upper 2 bolts and nuts. Tighten all 4 bolts and nuts using a 3/4” socket and wrench (Fig. 2442).

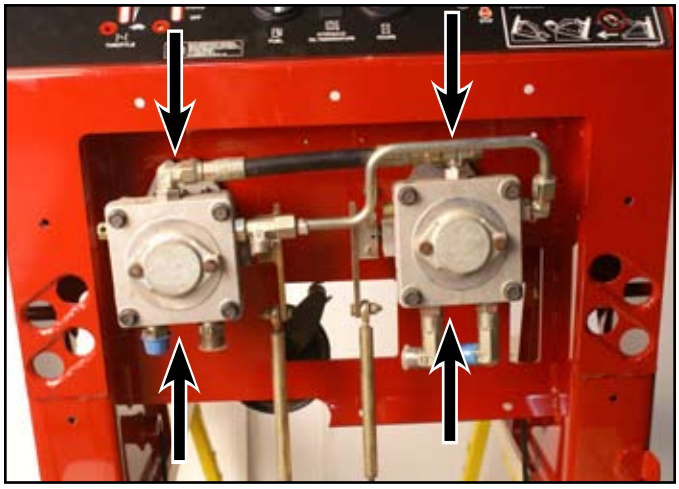

Fig 2442 PICT-2150

39. Install the hydrostatic pump pulleys (Fig. 2443).

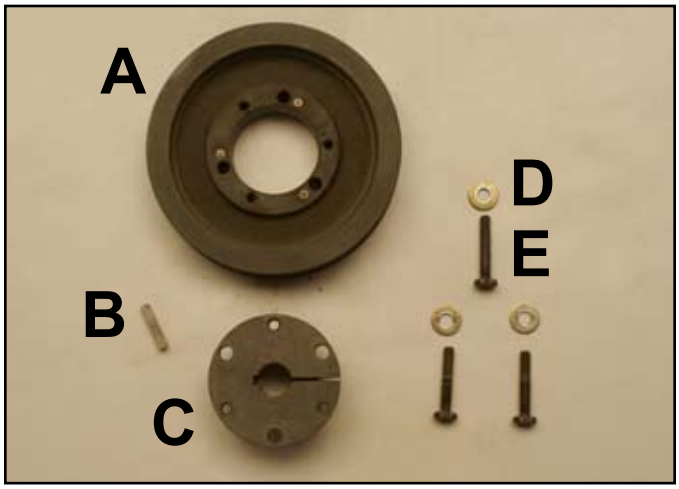

Fig 2443 PICT-2151

A. Pulley
B. Key
C. Hub
D. Washer (3)
E. Bolt (3)

40. Position the key in the keyway of the hydrostatic pump shaft (Fig. 2444).

Fig 2444 PICT-2154

41. Apply anti-seize compound to the shaft (Fig. 2445).

Fig 2445 PICT-2155

42. Assemble the pulley and hub with the 3 screws and washers. Just start the screws in the threaded holes of the pulley (Fig. 2446).

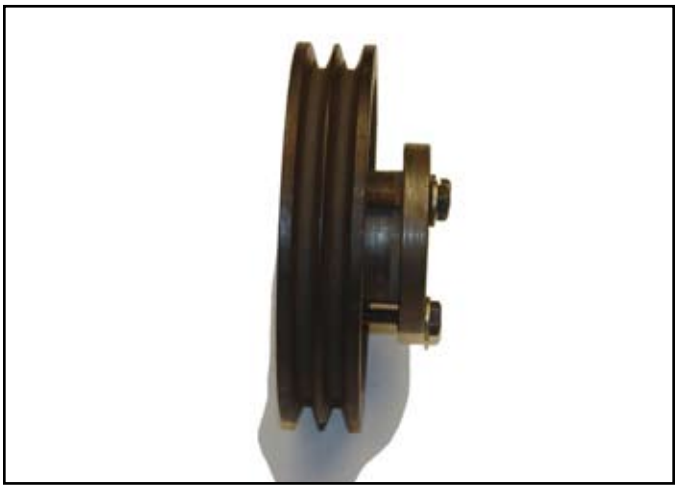

Fig 2446 DSC-0860

43. Install the pulley on the hydrostatic pump shaft, aligning the key into the keyway of the hub. Start the screws into the pulley – Do not tighten the screws at this time (Fig. 2447).

Fig 2447 PICT-2156

44. Repeat steps 40 - 43 for the second pulley.

45. Secure the tower to a hoist using chains or straps. Raise the hoist so that there is tension on the chains/straps (Fig. 2448).

Fig 2448 PICT-2157a

46. Using a 3/4” socket and wrench, remove the 10 fasteners that secure the tower to the frame (5 nuts and bolts on each side) (Fig. 2449).

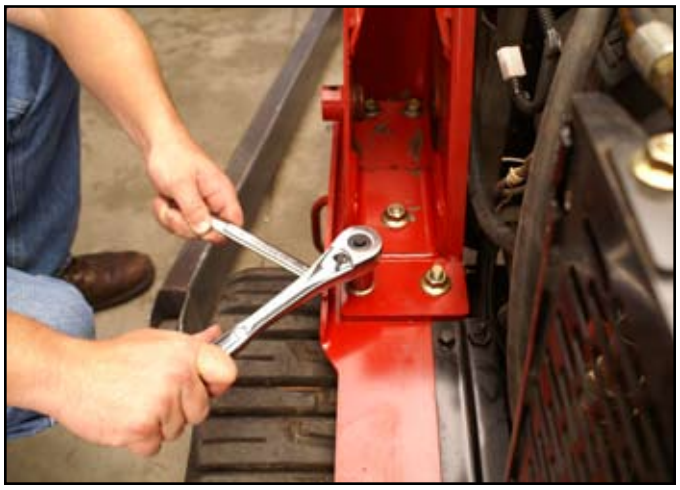

Fig 2449 PICT-2158

Note: The rear 2 bolts on each side of the tower hold an additional spacer plate to the underside of the frame (Fig. 2450).

Fig 2450 PICT-2159

Note: The front 2 bolts on each side of the tower will not be able to be removed completely due to track interference (Fig. 2451).

Fig 2451 PICT-2160

47. Raise the hoist and remove the tower from the frame (Fig. 2452).

Note: Guide the cables and hydraulic lines through the tower as you remove it.

Fig 2452 PICT-2162

48. Remove the battery mounting tray by using a 5/8” socket and an 11/16” wrench to remove the 2 bolts, washers and nuts (Fig. 2453).

Fig 2453 PICT-2163

49. Install the battery mounting tray to the replacement tower by installing the 2 bolts, washers and nuts using a 5/8” socket and an 11/16” wrench to tighten (Fig. 2454).

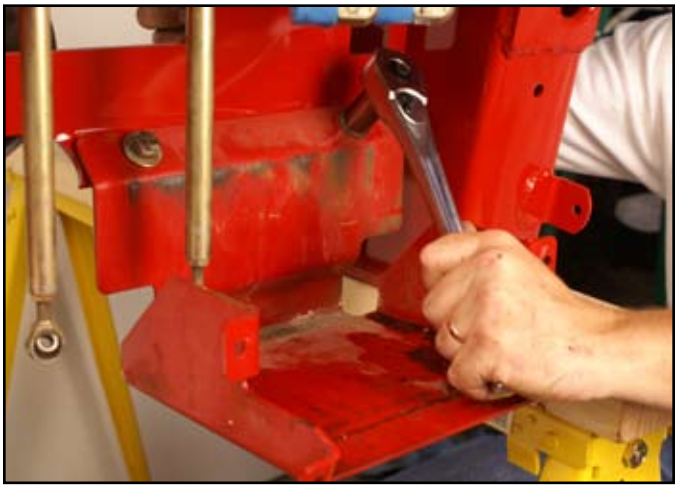

Fig 2454 PICT-2165

50. Remove the side grill latches from the tower as follows: (Fig. 2455)

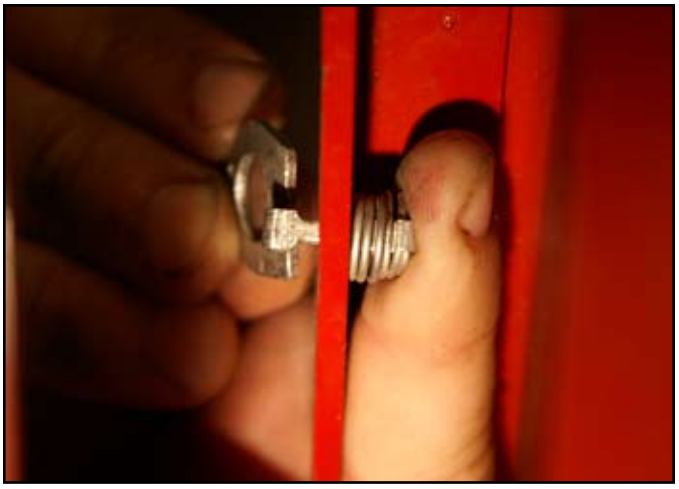

Fig 2455 PICT-2167

1. Compress the spring.
2. Slide the ring handle down past the step in the tapered spring retainer of the latch.
3. Remove the ring handle and spring assembly from the tower.
4. Repeat the above steps for the second grill latch assembly.

51. Install the side grill latches into the replacement tower as follows:

    1. Remove the ring handle by compressing the spring and sliding the ring handle off.
    2. Install the spring assembly (with the tapered spring retainer in place) into the replacement tower assembly (Fig. 2456).

Fig 2456 PICT-2169

3. Compress the spring assembly (Fig. 2457).

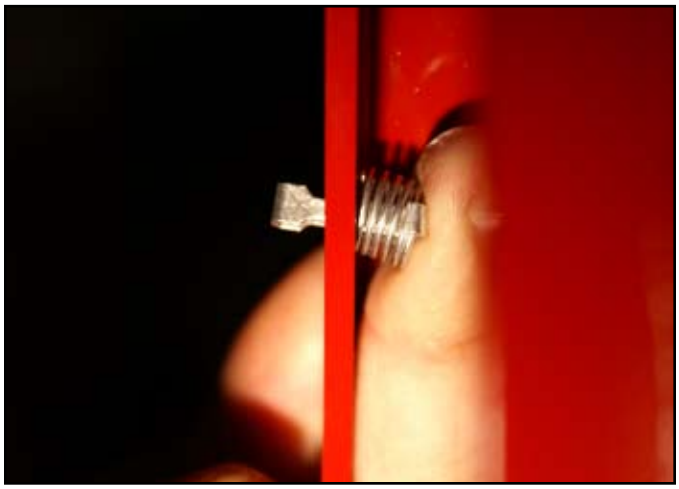

Fig 2457 PICT-2171

4. Install the ring handle onto the tapered spring retainer (Fig. 2458).

Fig 2458 PICT-2173

5. Repeat the above steps for the second grill latch assembly.

52. Insert the loader arm pivot pin backwards into the pivot pin holes on both sides of the replacement tower. Secure the pivot pins with a bolt and nut (Fig. 2459).

Fig 2459 PICT-2174

53. Attach hoist and lift chains to the pivot pins (Fig. 2460).

Fig 2460 PICT-2175a

54. Raise the replacement tower and position the replacement tower onto the frame (Fig. 2461).

Note: Guide the cables and hoses through the replacement tower as you lower the replacement tower onto the frame.

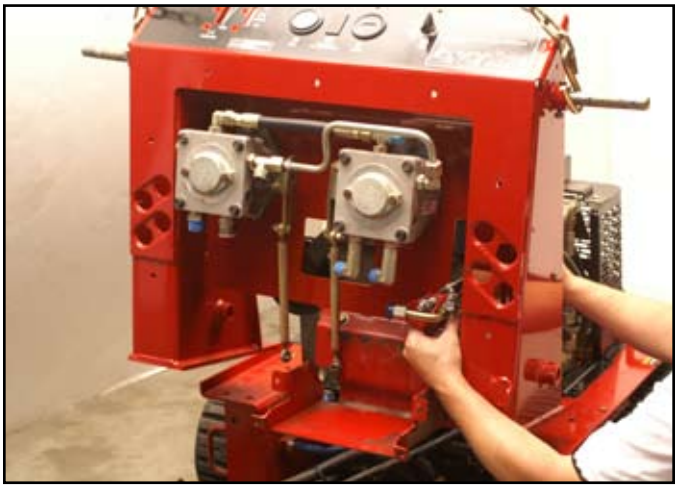

Fig 2461 PICT-2179a

55. To begin securing the tower assembly to the frame, loosely install the front three bolts and nuts on both side of the tower assembly. The bolts are installed from the bottom of the frame and the nuts are installed from the top (Fig. 2462).

Fig 2462 PICT-2181

56. Loosely install the rear two bolts on both sides of the tower assembly. The bolts are installed from the top of the frame. Before installing the nuts, slide each spacer in place on the bottom side of the frame (Fig. 2463).

Fig 2463 PICT-2183

57. Position the tower assembly so that the tower mounting plates and mating frame plates are flush on the rear facing edges (Fig. 2464).

Fig 2464 PICT-2184

58. Using a 3/4” socket and wrench, tighten all 10 bolts and nuts to secure the tower assembly to the frame. Torque all 10 bolts to 75 ± 8 ft-lbs. (102 ± 11 Nm) (Fig. 2465).

Fig 2465 PICT-2185

Torque Procedure:
1. Start with the middle bolt and nut.
2. Then torque the front bolt and nut.
3. Finally, the rear bolt and nut.

59. Lower the hoist and remove the chains from the tower assembly.

60. Remove both sets of pivot pins, bolts and nuts from the tower assembly (Fig. 2466).

Fig 2466 PICT-1267a

Tower Installation

1. Using a 1-1/8” wrench, connect the hydraulic hose marked with the letter “N” to the left hand hydrostatic pump port marked with the letter “N” (Fig. 2467).

Fig 2467 PICT-2101

2. In the following steps, make sure the hydraulic hoses are routed behind the drive linkage rods.

3. Using a 15/16” wrench, connect the hydraulic hose marked with the letter “O” to the right hand hydrostatic pump fitting also marked with the letter “O” (Fig. 2468).

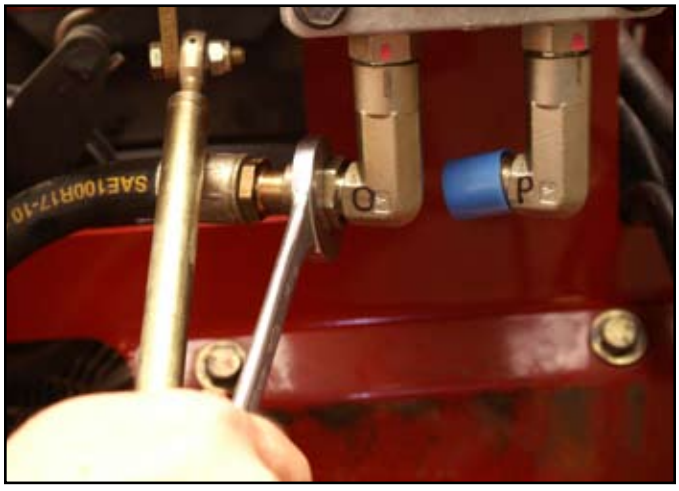

Fig 2468 PICT-2190

4. Using a 15/16” wrench, connect the hydraulic hose marked with the letter “P” to the right hand hydrostatic pump fitting also marked with the letter “P” (Fig. 2469).

Fig 2469 PICT-2191

5. Using a 15/16” wrench, connect the hydraulic hose marked with the letter “Q” to the hydrostatic pump intake fitting also marked with a “Q” (Fig. 2470).

Fig 2470 PICT-2193

6. Using a 15/16” (2.38cm) wrench, connect the hydraulic case drain hose marked with the letter “R” to the T-fitting also marked with the letter “R” (Fig. 2471).

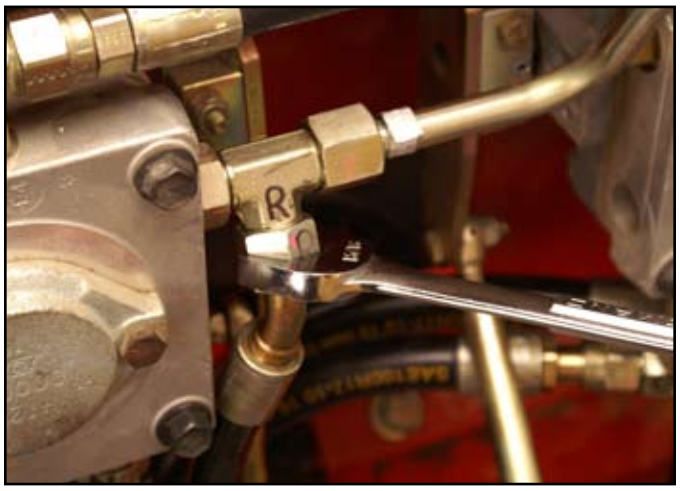

Fig 2471 PICT-2200

Replacement Control Panel Installation

1. Attached the hoist and lift chains to the replacement control panel and lift in place behind the tower assembly (Fig. 2472).

Fig 2472 PICT-2197

2. Raise the control arms so that they are above the hydraulic hard lines on the control panel assembly (Fig. 2473).

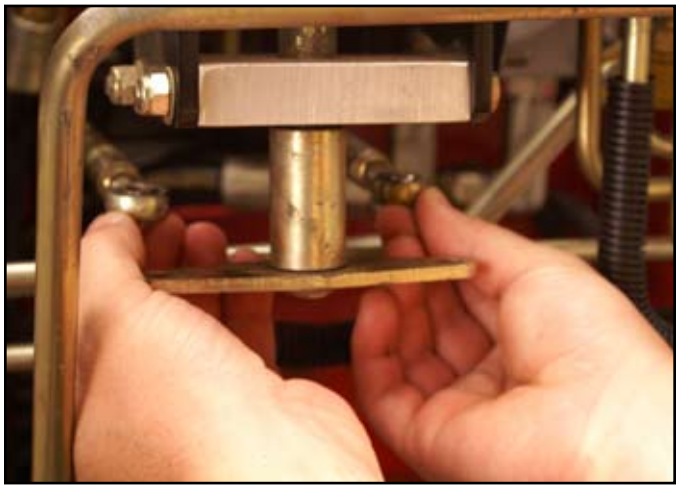

Fig 2473 PICT-2198

3. Attach the control panel assembly onto the tower assembly with the 5 bolts and nuts using a 9/16” wrench (Fig. 2474).

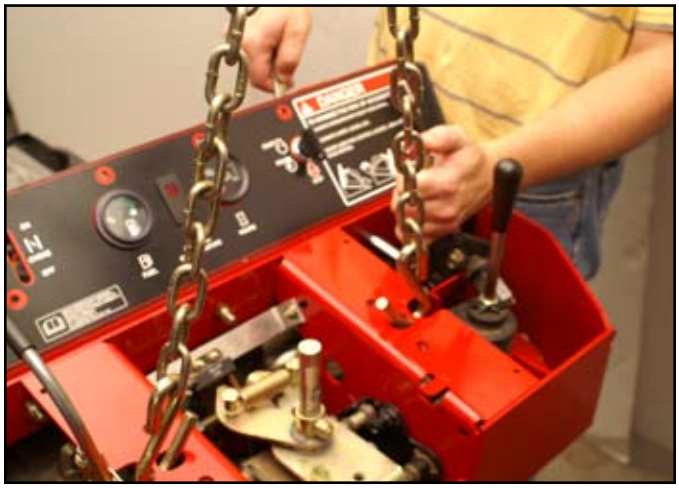

Fig 2474 PICT-2201

4. Remove the hoist and chains from the replacement control panel assembly.

5. Using a 15/16” wrench, connect the hydraulic hard line marked with the letter “L” to the engine plate bulkhead fitting (also marked with the letter “L”) (Fig. 2475).

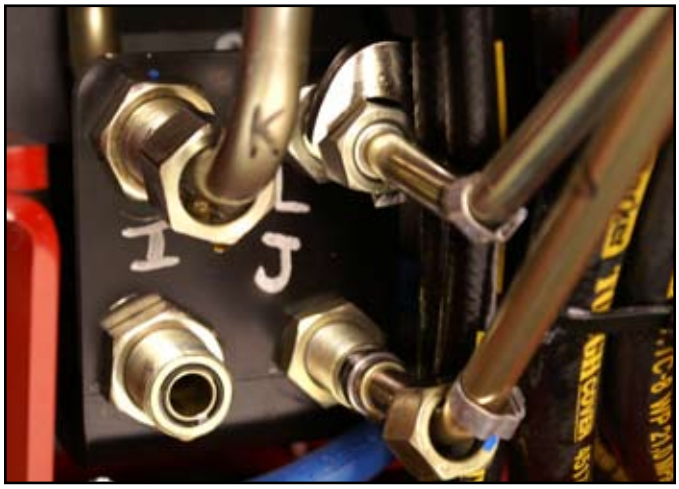

Fig 2475 PICT-8053

6. Using a 1-1/8” wrench, connect the hydraulic line marked with the letter “K” to the engine plate bulkhead fitting (also marked with the letter “K”) (Fig. 2476).

Fig 2476 PICT-2204

7. Using a 15/16” wrench, connect the hydraulic line marked with the letter “J” to the engine bulkhead plate also marked with the letter “J” (Fig. 2477).

Fig 2477 PICT-8055

8. Loosely connect the upper end of the hydraulic line marked with the letter “I” to the auxiliary spool valve (Fig. 2478).

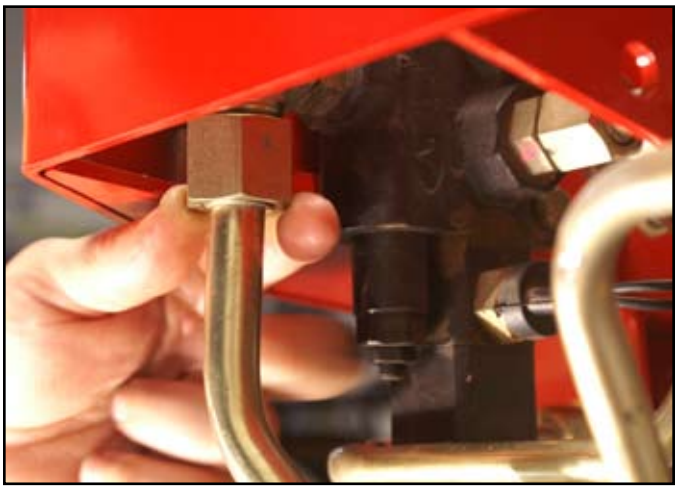

Fig 2478 PICT-2206

9. Using a 15/16” wrench, connect the lower end of the hydraulic line marked with the letter “I” to the engine bulkhead plate also marked with an “I”. Tighten the upper nut at this time as well (Fig. 2479).

Fig 2479 PICT-2207

10. Using a 15/16” wrench, connect the hydraulic line marked with the letter “M” to the left hand port of the left hand hydrostatic pump also marked with the letter “M” (Fig. 2480).

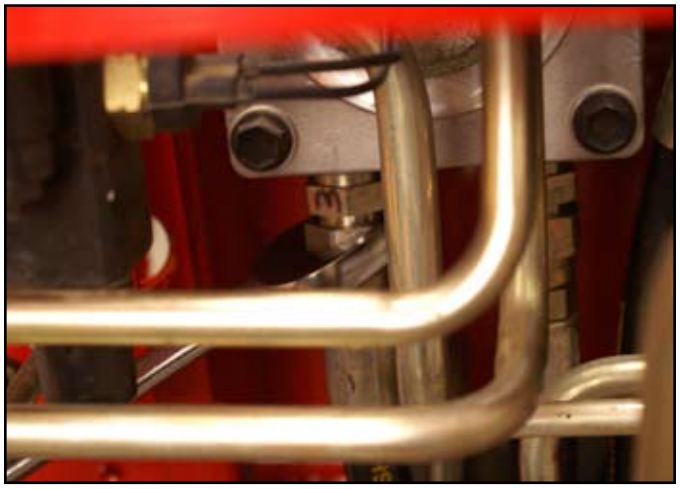

Fig 2480 PICT-2202

11. Install the control arm linkage rods to the to the drive rod assembly by installing each bolt up through the drive rod ends. The spacers are installed between the drive rod ends and the drive rod, and the nut is installed above the drive rod assembly (Fig. 2481).

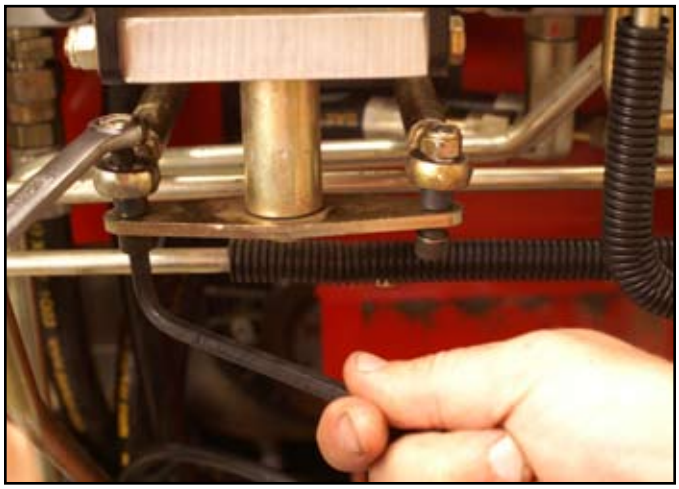

Fig 2481 PICT-2208

12. Feed the right brake assembly cable up through the hydraulic lines marked with the letters “C” and “D” on the right hand side of the control panel (Fig. 2482).

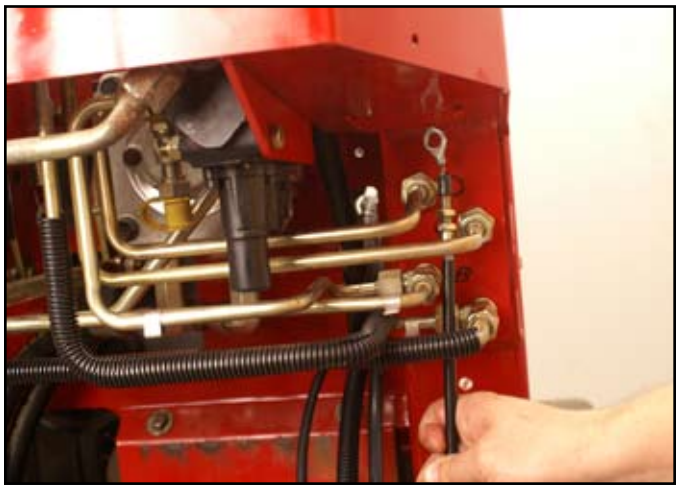

Fig 2482 PICT-2211

13. Route the left brake assembly cable up to the left side of the hydraulic line marked with the letter “B” on the right hand side of the control panel (Fig. 2483).

Fig 2483 PICT-2213

14. Attach the brake cables to the brake handle by first feeding the left brake assembly cable eyelet onto the bolt. Then, feed the bolt and cable eyelet into the brake handle from the right side. Install the right brake assembly cable eyelet onto the bolt (Fig. 2484).

Fig 2484 PICT-2215

15. Install the washer and nut. Tighten the bolt and nut using 9/16” and 7/16” wrenches (Fig. 2485).

Fig 2485 PICT-2217

16. Pull Down the right brake conduit (located on the left side of the brake lever) to remove the slack from the brake cable between the brake lever and control panel brake plate. Install the threaded portion of the cable conduit into the slot of the control panel brake plate with a jam nut located on each side (Fig. 2486).

Fig 2486 PICT-2223

17. Adjust the top and bottom jam nuts so there is approximately 5/8” thread exposed from the control panel brake plate to the end of the threads on both sides of the control panel brake plate. Slide the boot back down (Fig. 2487).

Fig 2487 PICT-2220

18. Install a tie strap around the lower metal hydraulic line and brake cable (Fig. 2488).

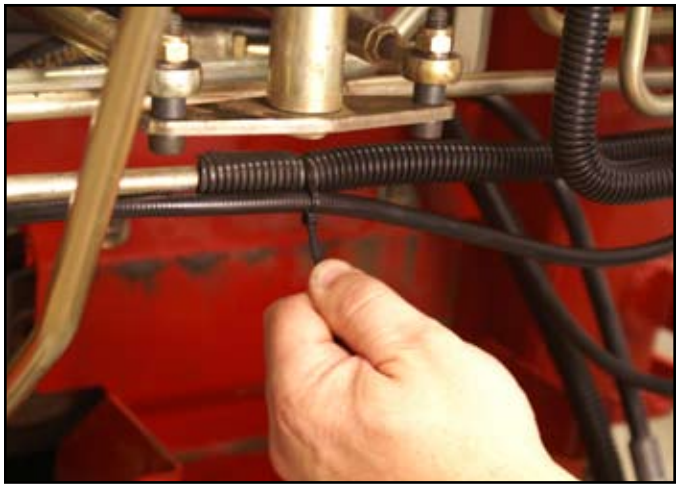

Fig 2488 PICT-2221

19. Install another tie strap around the far left auxiliary inlet hydraulic line and brake cable (Fig. 2489).

Fig 2489 PICT-2222

Wire Harness Installation

1. Feed the wire harness connectors marked with the numbers 1, 2, 3, and 4 through the opening in the tower and into the control panel area (Fig. 2490).

Fig 2490 PICT-2225

2. Using a 1/2” socket, attach the fuse/relay bracket assembly to the inside of the tower assembly with 2 self-tapping bolts (Fig. 2491).

Note: The spring on the hood prop rod should lay flat on the tower.

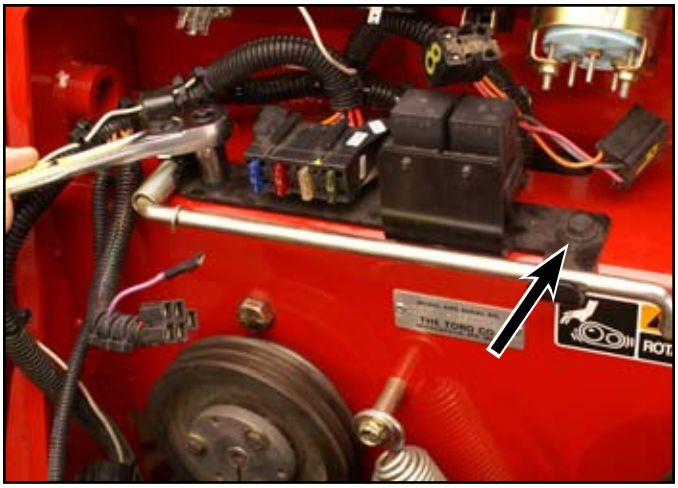

Fig 2491 PICT-2227

3. Connect the single purple wire (marked with number “6”) to the key switch assembly (Fig. 2492).

Fig 2492 PICT-2229

4. Connect the five wire connector (marked with a number “6”) to the key switch assembly (Fig. 2493).

Fig 2493 PICT-2230

5. Connect the single white wire (marked with the number “7”) to the hour meter (Fig. 2494).

Fig 2494 PICT-2232

6. Connect the 2 wire connector (marked with number “8”) to the hydraulic oil temperature light (Fig. 2495).

Fig 2495 PICT-2233

7. Connect the 3 wire connector (marked with number “9”) to the fuel gauge (Fig. 2496).

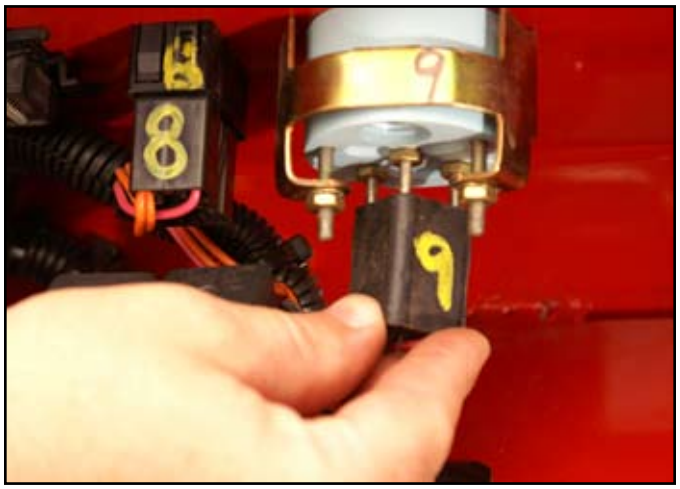

Fig 2496 PICT-2234

8. Install the wire harness behind the wiring shield with 2 self tapping bolts using a 1/2” socket (Fig. 2497).

Fig 2497 PICT-2334

9. Install the choke handle assembly (marked with the letter “C”) into the tower (Fig. 2498).

Fig 2498 PICT-2335

10. Secure the choke to the tower with 2 sets of bolts, washers and nuts using a 3/8” socket and a 5/16” wrench (Fig. 2499).

Note: The washer goes on the top side of the tower.

Fig 2499 PICT-2337

11. Install the throttle handle assembly into the tower (Fig. 2500).

Fig 2500 PICT-2338

12. Secure the throttle to the tower with 2 sets of bolts, washers and nuts using a 3/8” socket and a 5/16” wrench (Fig. 2501).

Note: The washer goes on the top side of the tower.

Fig 2501 PICT-2339

13. Position the cable guide bracket onto the tower assembly. Secure the cable guide bracket to the tower with a self tapping screw using a 1/2” socket (Fig. 2502).

Note: Route the throttle and choke cable through the left side opening of the engine baffle, along side the oil cooler inlet hydraulic line.

Fig 2502 PICT-2341

14. Install the throttle and cable handle knobs (Fig. 2503).

Fig 2503 PICT-2342

15. Remove the idler spring from the stud and idler arm assembly (Fig. 2504).

Fig 2504 PICT-2343

16. With a straight edge, align the hydrostatic pulleys to the crankshaft pulley (Fig. 2505).

Fig 2505 DSC-0892

17. Once the pulleys are aligned, evenly tighten the 6 pulley screws (3 per pulley) using a 7/16” socket (Fig. 2506).

Fig 2506 PICT-2344

18. Install the v-belt onto the pulleys (Fig. 2507).

Fig 2507 PICT-2345

19. Using a spring tool, install the extension spring onto the idler pulley and stud located on the tower assembly (Fig. 2508).

Fig 2508 PICT-2346

20. Connect the auxiliary valve connector (marked with a number “1”) to the auxiliary valve (Fig. 2509).

Fig 2509 PICT-2347

21. Connect the audio alarm connector (marked with the number “2”) to the hydraulic oil temperature audio alarm (Fig. 2510).

Fig 2510 PICT-2348

22. Connect the proximity connector (marked with number “3”) to the proximity switch (Fig. 2511).

Fig 2511 PICT-2349

23. Connect the brake switch connector (marked with number “4”) to the brake switch (Fig. 2512).

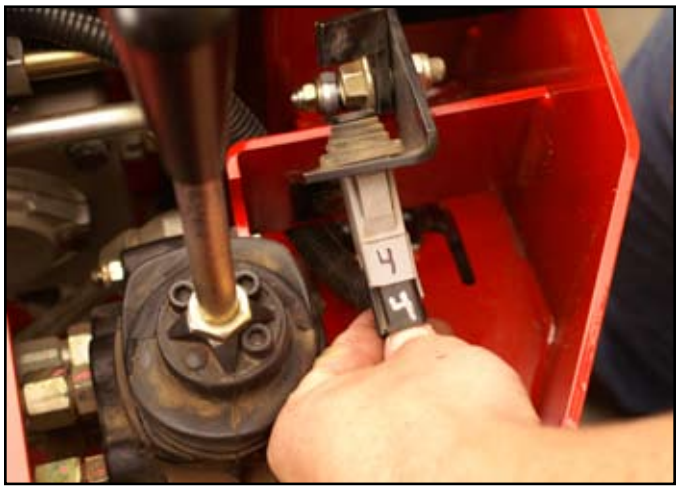

Fig 2512 PICT-2350

24. Install the reverse plate onto the control panel by sliding the back pocket on the reverse plate onto the rear center section of the control panel (Fig. 2513).

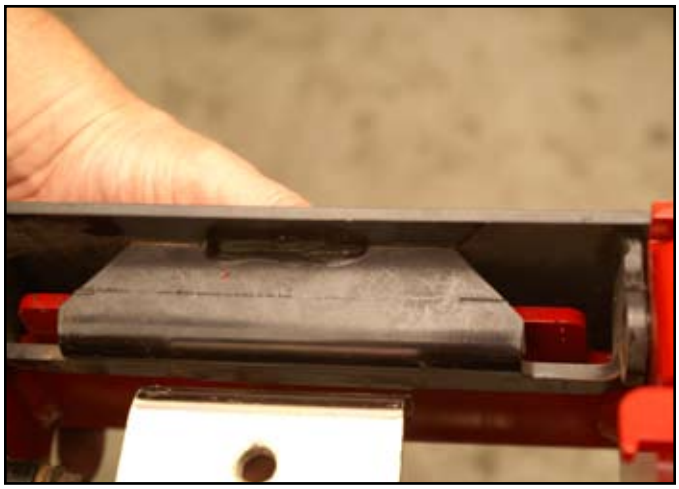

Fig 2513 PICT-2352

25. Install the shoulder bolts, springs and nuts to secure the reverse plate to the control panel (Fig. 2514).

Note: The black spring is installed on the left side of the reverse plate from the operator's position.

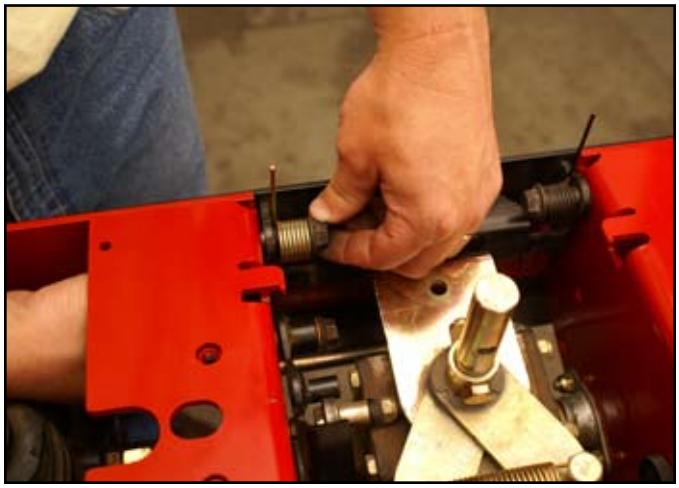

Fig 2514 PICT-2353

26. Tighten the reverse plate shoulder bolts and nuts using a 9/16" socket and wrench (Fig. 2515).

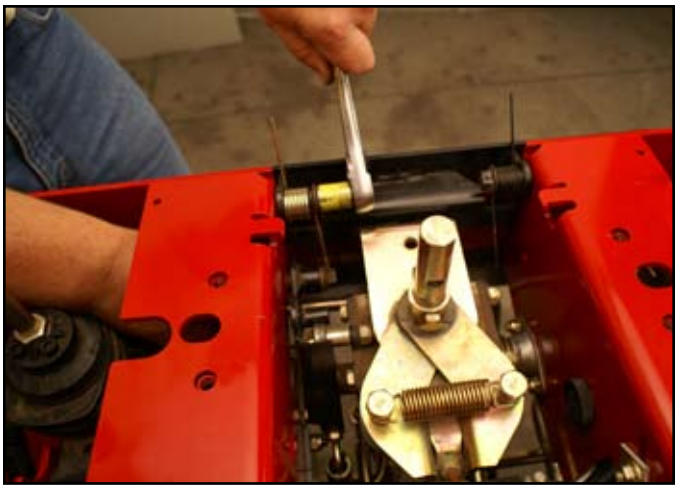

Fig 2515 PICT-2354

27. Install the spring extensions of both springs under the tabs located on the control panel (Fig. 2516).

Fig 2516 PICT-2357

28. Install the center control panel plate over the drive rod assembly (Fig. 2517).

Fig 2517 PICT-2358

29. Install the reference handle and control bar assembly onto the drive rod (Fig. 2518).

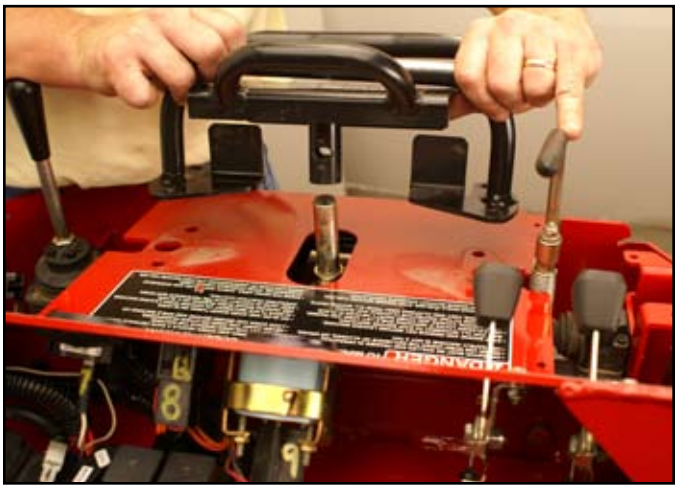

Fig 2518 PICT-2359

30. Secure the reference bar assembly to the control panel with 4 bolts using a 1/2” socket to tighten (Fig. 2519).

Fig 2519 PICT-2360

31. Loosely install the bolt and nut to secure the control handle to the drive rod assembly (Fig. 2520).

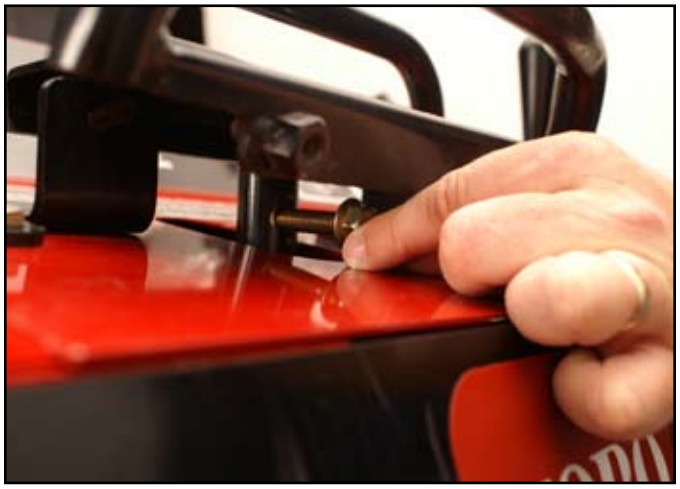

Fig 2520 PICT-2361

32. Using 9/16” socket and wrench, tighten the bolt and nut to secure the control handle to the drive rod assembly (Fig. 2521).

Note: Adjust the straightness of the control handle in relation to the reference bar. The front control handle bar should be parallel with the reference bar.

Fig 2521 PICT-2362

33. Slide the stop plate onto the auxiliary handle (Fig. 2522).

Fig 2522 PICT-2363

34. Position the auxiliary valve stop plate onto the replacement control panel and loosely install both bolts and nuts. Using a 7/16” socket and wrench, snug the top bolt and nut (Fig. 2523).

Fig 2523 PICT-2368

35. Adjust the stop plate so the auxiliary handle returns freely with spring pressure only (Fig. 2524).

Fig 2524 PICT-2369

36. Using a 7/16” socket and wrench, tighten the bottom bolt and nut and then the top bolt and nut (Fig. 2525).

Fig 2525 PICT-2370a

37. Install the left hand control panel plate over the auxiliary handle (Fig. 2526).

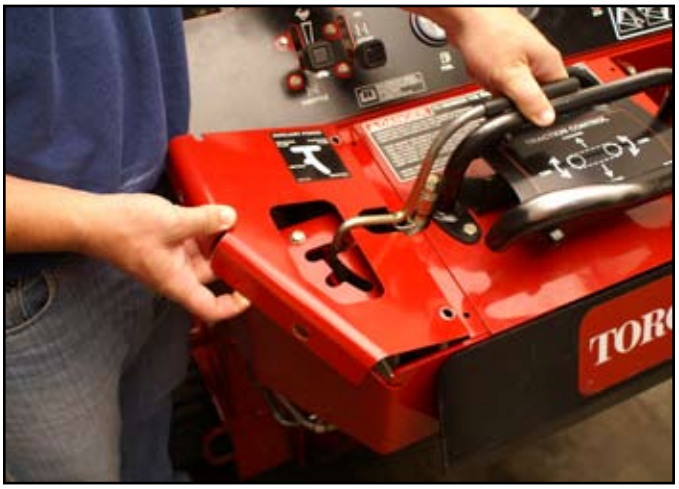

Fig 2526 PICT-2371

38. Install and tighten the 4 self-tapping screws using a 3/8” socket to secure the left hand control panel plate to the control panel (Fig. 2527).

Fig 2527 PICT-2372

39. Install the right hand control panel plate over the brake lever (Fig. 2528).

Fig 2528 PICT-2373a

40. Install and tighten the 4 self-tapping screws using a 3/8” socket to secure the right hand control panel plate to the control panel (Fig. 2529).

Fig 2529 PICT-2374

Loader Arm Assembly Installation

1. Lift the loader arm assembly with a properly rated hoist and position the lift arm assembly so that the lift arm pivot points are above the tower assembly (Fig. 2530).

Fig 2530 PICT-1169a

2. Release tension on the straps securing the lift cylinders to the loader arm. Lower the lift cylinders so that they will enter the tower assembly below the tower assembly support brackets. Position 1 or 2 jack stands under the quick attach assembly at approximately 18” (45.7cm) high. Lower the loader arm assembly so that the loader arms rest on the tower assembly (2” overlap) (5.08cm), the quick attach assembly rests on the jack stand, and the lift cylinders enter the lower opening in the tower (Fig. 2531).

Fig 2531 PICT-2376a

3. Secure the loader arm assembly to the frame using straps that connect the quick attach assembly to both of the loader arm stop brackets on the frame. (Fig. 2532).

Fig 2532 PICT-2377

4. Remove the protective caps from the lift cylinder and tilt cylinder hydraulic lines on the right side of the lift arm assembly and from the bulkhead fittings on the left side of the tower.

5. Feed the lift cylinder hydraulic lines (marked A and B) through the right side lower tower opening (Fig. 2533).

Fig 2533 PICT-2379a

6. Connect the lift cylinder hydraulic lines (marked “A” and “B”) to the right side hydraulic bulkhead fittings marked “A” and “B” (Fig. 2534).

Note: Connect the hydraulic line and fitting marked “B” and then the line and fitting marked “A”.

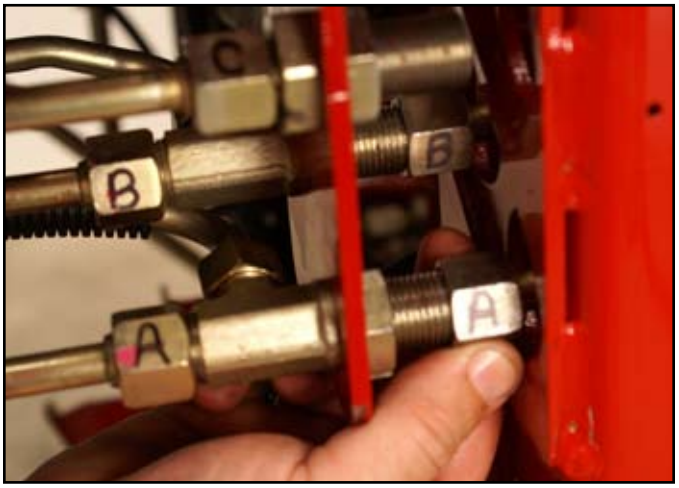

Fig 2534 PICT-2383

7. Lower the right lift cylinder. Feed the tilt cylinder hydraulic lines (“C” and “D”) through the lower tower opening above the lift cylinder (Fig. 2535).

Fig 2535 PICT-2384

8. Connect the tilt cylinder hydraulic lines (marked “C” and “D”) to the left side hydraulic bulkhead fittings marked “C” and “D” (Fig. 2536).

Note: Connect the hydraulic line and fitting marked “D” and then the line and fitting marked “C”.

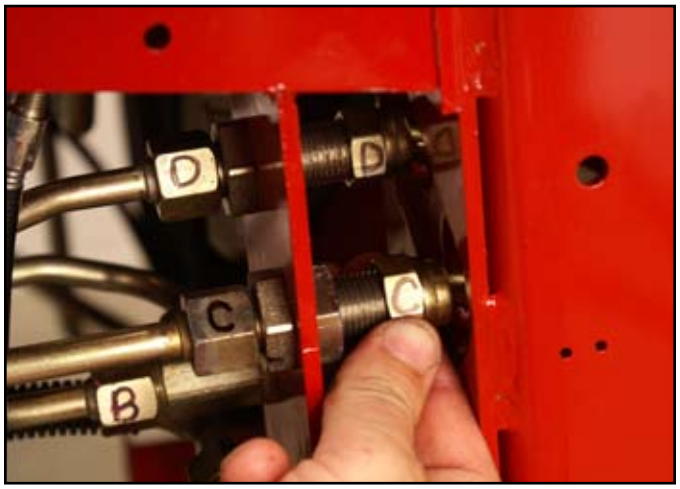

Fig 2536 PICT-2385

9. Using a 13/16” wrench on the tilt cylinder lines and a 7/8” wrench on the lift cylinder lines, tighten all 4 hydraulic lines and fittings (marked “A” – “D”) on the right side hydraulic bulkhead (Fig. 2537).

Fig 2537 PICT-2387

10. Remove the protective caps from the lift cylinder and auxiliary cylinder hydraulic lines on the left side of the lift arm assembly and from the bulkhead fittings on the right side of the tower.

11. Feed the lift cylinder hydraulic lines (marked “E” and “F”) through the left side lower tower opening (Fig. 2538).

Fig 2538 PICT-2388

12. Connect the lift cylinder hydraulic lines (marked “E” and “F”) to the left side hydraulic bulkhead fittings marked “E” and “F” (Fig. 2539).

Note: Connect the hydraulic line and fitting marked “F” and then the line and fitting marked “E”.

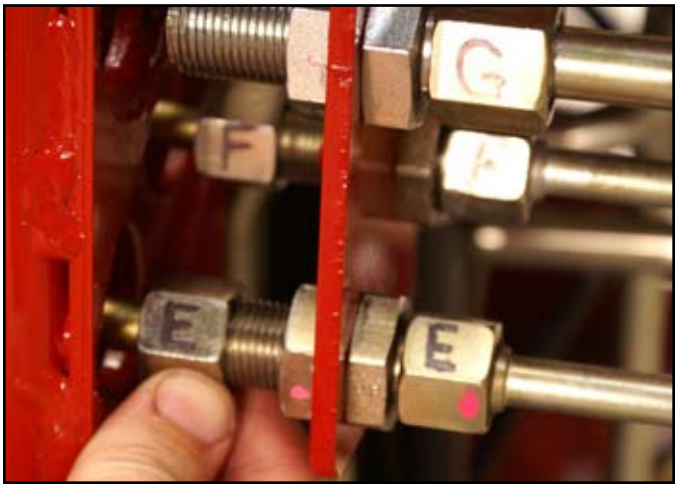

Fig 2539 PICT-2391

13. Lower the right lift cylinder. Feed the auxiliary cylinder hydraulic lines (“G” and “H”) through the left side lower tower opening above the lift cylinder (Fig. 2540).

Fig 2540 PICT-2392

14. Connect the auxiliary cylinder hydraulic lines (marked “G” and “H”) to the right side hydraulic bulkhead fittings marked “G” and “H” (Fig. 2541).

Note: Connect the hydraulic line and fitting marked “H” and then the line and fitting marked “G”.

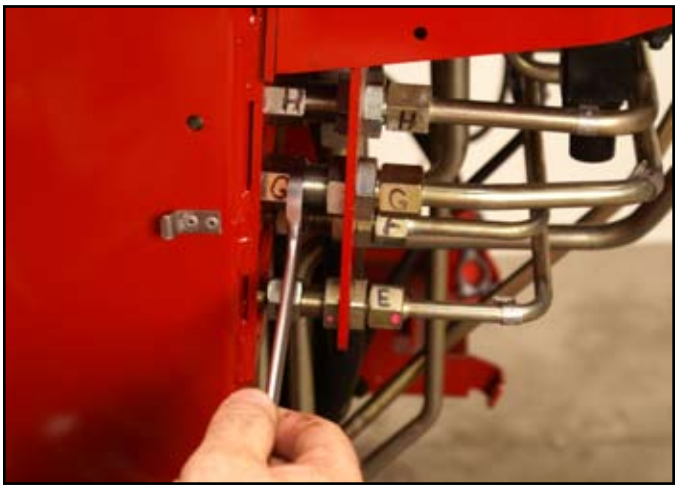

Fig 2541 PICT-2394

15. Using a 13/16” wrench on the lift cylinder lines and a 15/16” wrench on the auxiliary cylinder lines, tighten all 4 hydraulic lines and fittings (marked “E” – “H”) on the right side hydraulic bulkhead (Fig. 2542).

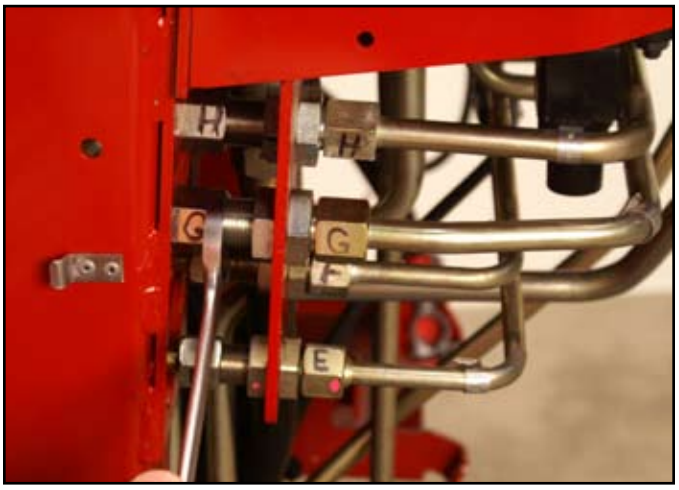

Fig 2542 PICT-2394

16. With tension on the hoist straps, remove the safety straps securing the loader arm assembly to the loader arm stop brackets on the frame (Fig. 2543).

Fig 2543 PICT-2377

17. Remove both straps securing the lift cylinders to the loader arm assembly (Fig. 2544).

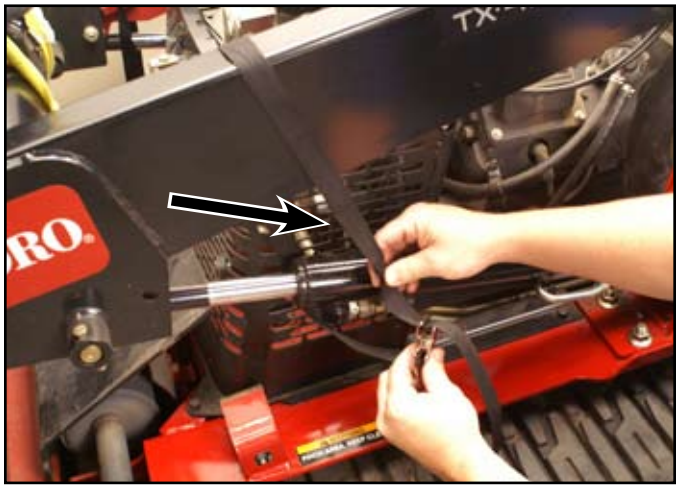

Fig 2544 PICT-2401a

18. Raise the loader arm off the tower assembly and remove the jack stand. Align the pivot pin holes on the loader arm assembly with the upper pivot pin holes in the tower assembly (Fig. 2545).

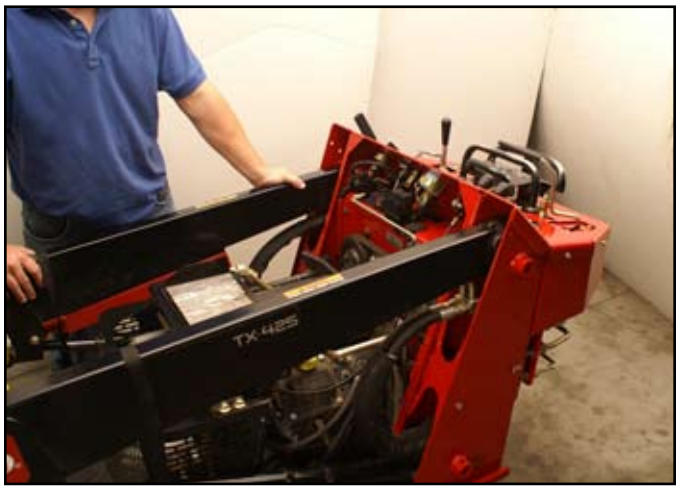

Fig 2545 PICT-2397a

19. Install the upper pivot pins on both side of the tower assembly (Fig. 2546).

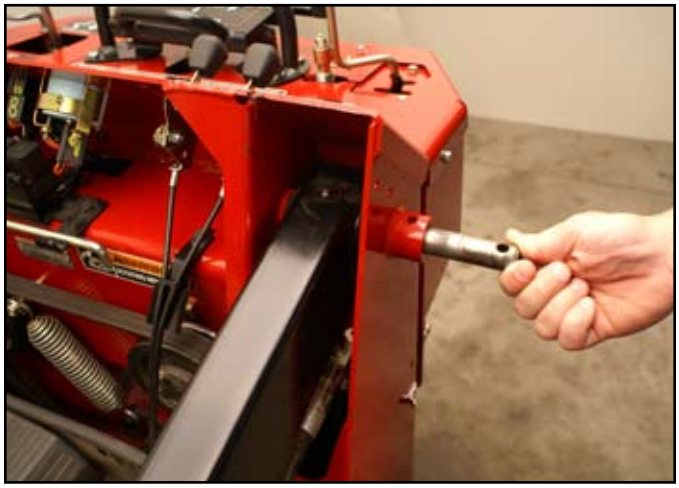

Fig 2546 PICT-2398

20. Lower the lift arm assembly and line up the lift cylinder pivot pin holes with the lower pivot pin holes in the tower assembly. Install the lower pivot pins on both sides of the tower assembly to secure the lift cylinders (Fig. 2547).

Fig 2547 PICT-2399

21. Install all 4 sets of bolts and nuts to secure the pivot pins to the tower assembly. Torque to 19 ft-lbs. (25.7 Nm) (Fig. 2548).

Fig 2548 PICT-2400

22. Lower the hoist and remove the lift straps from the loader arm assembly.

Hood Assembly Installation

1. Position the hood assembly onto the tower so that the four holes on the hinge line up with the 4 holes on the inside of the tower. Install the hood prop rod into the hood assembly (Fig. 2549).

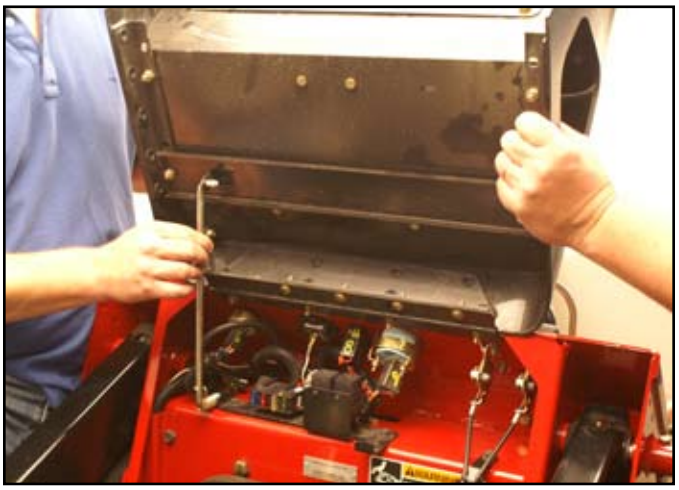

Fig 2549 PICT-2402

2. Install the hood assembly to the tower with the 4 bolts and nuts (Fig. 2550).

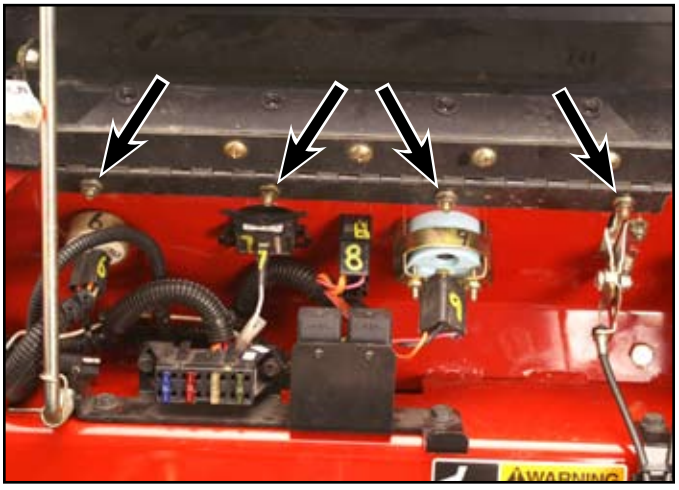

Fig 2550 PICT-2403

3. Using a Phillips screwdriver and a 7/16” socket, tighten all 4 bolts and nuts (Fig. 2551).

Fig 2551 PICT-2404

4. Install the nut and screw that secures the fan connector to the hinge (Fig. 2552).

Fig 2552 PICT-2405

5. Using a Phillips screwdriver and a 7/16” socket, tighten the bolt and nut securing the fan connector to the hinge (Fig. 2553).

Fig 2553 PICT-2406

6. Plug the harness fan connector to the fan connector (both marked with number “5”) (Fig. 2554).

Fig 2554 PICT-2407

7. Install the right and left engine guards and secure with latch assemblies (2 latch assemblies per engine guard) (Fig. 2555).

Fig 2555 PICT-2408a

Final Checks & Rear Panel Installation

1. Check engine oil level.
2. Check hydraulic oil level. Refer to “Checking the Hydraulic Fluid” on page 3-4.
3. Raise the machine off the floor and support with jack stands. Refer to “Lifting Unit for Service” on page 8-2.

4. Place the battery into the battery tray. Using a 1/2” socket, connect the positive battery cable to the battery first then connect the negative battery cable (Fig. 2556).

Fig 2556 PICT-2409

5. With the fuel tank level, install the fuel line onto the fuel tank (Fig. 2557).

Note: Do not install the fuel tank yet.

Fig 2557 PICT-2411

6. Start the machine (Fig. 2558).

DANGER
TO MINIMIZE THE RISK OF AC
• ALWAYS OPERATE WITH HEAVY END
• ALWAYS CARRY LOADS LOW.
• NEVER JERK THE CONTROL LEVERS.
EVEN MOTION.

Fig 2558 PICT-2412

7. Cycle the following: (Fig. 2559).

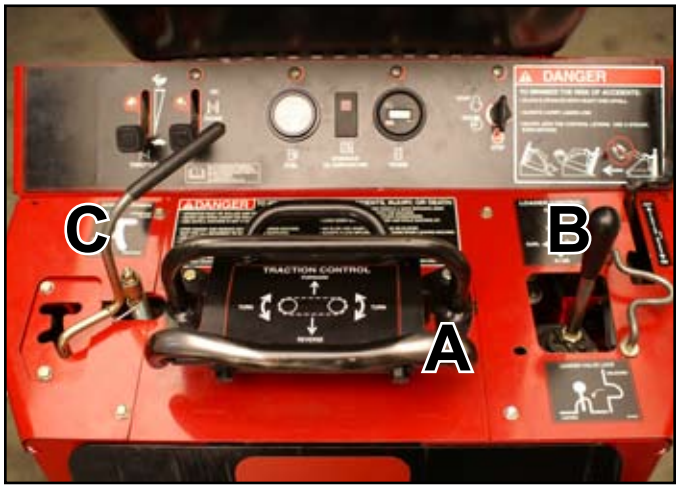

Fig 2559 PICT-2413

A. Drive handle
B. Loader valve
C. Auxiliary valve

8. Shut off the engine (Fig. 2560). Check for leaks at all hydraulic connections. Recheck hydraulic oil level. Refer to “Checking the Hydraulic Fluid” on page 3-4.

DANGER
TO MINIMIZE THE RISK OF AC
• ALWAYS OPERATE WITH HEAVY END
• ALWAYS CARRY LOADS LOW.
• NEVER JERK THE CONTROL LEVERS.
EVEN MOTION.

Fig 2560 PICT-2412

9. Using a 1/2” socket and wrench, install the battery clamp with two bolts and nuts (Fig. 2561).

Fig 2561 PICT-2416

10. Slide the fuel tank into the rear of the frame (Fig. 2562).

Fig 2562 PICT-2417

11. Connect the two wires (black and orange) to the fuel sending unit located on the top of the fuel tank (Fig. 2563).

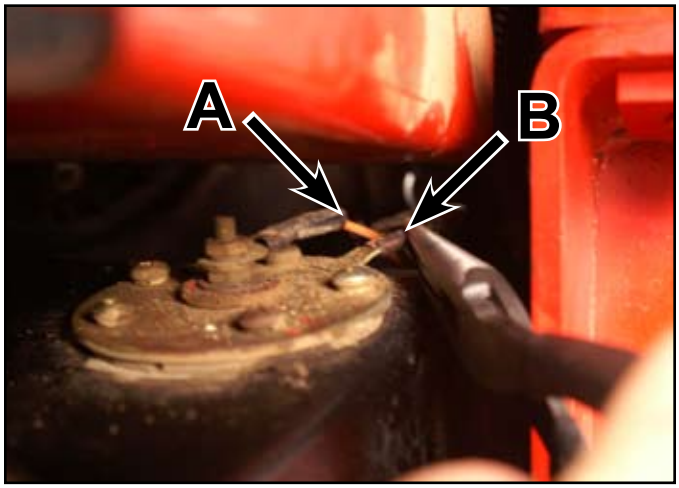

Fig 2563 PICT-2418

A. Center terminal orange wire

B. Outside terminal black wire

12. Lower the machine off the jack stands.

13. Position the rear chassis cover onto the frame using a 3/4” socket and wrench to install the 6 nuts and bolts to secure the rear chassis cover to the frame (Fig. 2564).

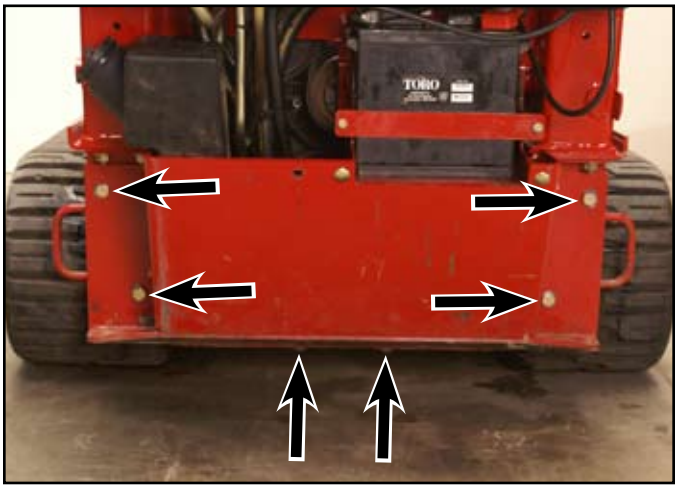

Fig 2564 PICT-2419

14. Use a 9/16” wrench to install the two nuts, washers and carriage bolts that secure the rear chassis cover to the battery tray (Fig. 2565).

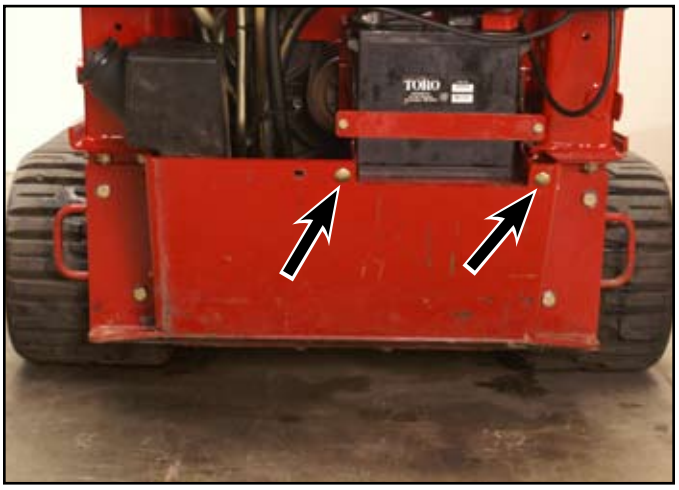

Fig 2565 PICT-2419

15. Position the fuel tank clamp bracket into the rear chassis (Fig. 2566).

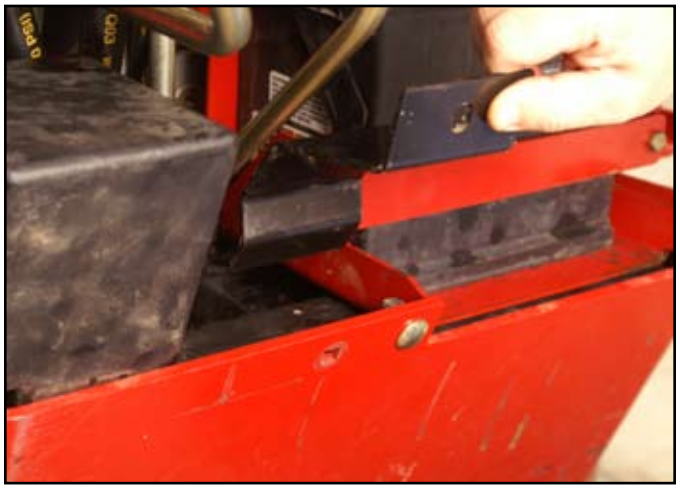

Fig 2566 PICT-2420

16. Using a 9/16” socket, install the carriage bolt and nut to secure the fuel tank clamp bracket to the rear chassis cover (Fig. 2567).

Fig 2567 PICT-2421

17. Using a 3/4” socket, install the left and right rear counterweights (Fig. 2568).

Fig 2568 PICT-2422

18. Raise the loader arms to approximately 24” (61cm) high and secure in place with a jack stand.

19. Install the rear cover by installing the 2 bolts and nuts that secure the cover to the tower. Use a 9/16” socket and a 1/2” wrench to tighten (Fig. 2569).

Fig 2569 PICT-2423

20. Lower and latch the hood.

21. Grease pivot points. Refer to “Greasing the Traction Unit” on page 3-2.

22. Change hydraulic filter after approximately 8 hours of operation.

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